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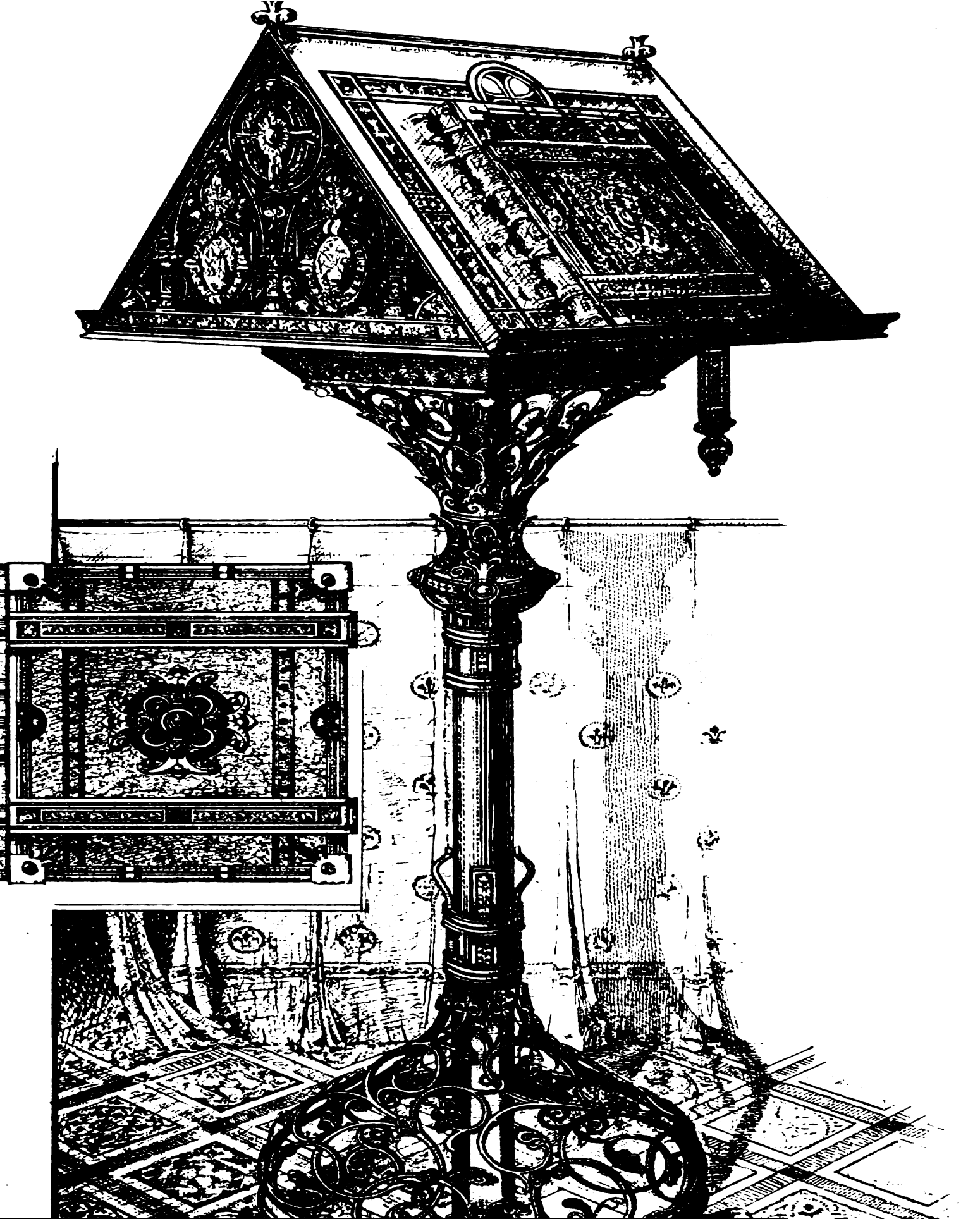
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THE ARCHITECT.

A WEEKLY

ILLUSTRATED JOURNAL

OF

ART,
CIVIL ENGINEERING,
AND
BUILDING.

*God bade the Sun, with golden step sublime,
Advance!*

*He whispered in the listening ear of Time,
Advance!*

*To Man's most wondrous hand the same voice cried,
Advance!*

*Go clear the woods, and o'er the bounding tide
Advance!*

*Go draw the marble from its secret bed,
And make the cedar bend its giant head;
Let domes and columns through the wondering air
Advance!*

*The World, O Man, is thine. But wouldst thou share—
Advance!*

MACCARTHY.

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THE ARCHITECT

A JOURNAL OF ART, CIVIL ENGINEERING, AND BUILDING

THE PROSPECTS OF ARCHITECTURE.



COMMENCING a new year it is well not only to look back upon the past, but to look forward to the future; and in a field so wide and so interesting as that of architectural art it is hard indeed if we cannot find much in a year that has closed to contemplate with satisfaction, and perhaps still more in a year that is opening to regard with hope.

There are three separate subjects which may be taken into this view of the case: the architect, the art, and the science. There are three questions that may be asked:—What is the professional man doing? What progress is being made in æsthetic design? What

is being done in construction?

If we take the practitioner first in order, it is not because he is of more importance than the purpose of his practice. On the contrary, in all intellectual enterprise of a high order, however great the man may be, the work is greater. In such a thing as architecture—dating from the very dawn of civilisation; advancing and receding with the tide of human culture so closely as actually to become an index to the comparative condition of the whole intelligence of the race; establishing all over the globe, as its own milestones, such structures as those we know so well, whose merits are the praise of the accomplished few as their grandeur is the astonishment of the crowd—it is perhaps more remarkably the fact than in almost anything else that the particular worker is lost in the vastness of the general movement, and the individual life swallowed up in the *ensemble* of the age. Thus it is, indeed, that there are so few architectural names of past time that are even recognisable in the present; thus it is that there are so few of our existing celebrities whose reputation will go down into the future. Grandiose edifices endure for centuries; even our everyday endeavours to throw an interest over the lesser operations of the builder will long continue to gratify the connoisseur; but, unless amongst a small handful of cyclopædists, the names of the designers have been of no account hitherto, and will still be of none. It is an easy thing to allege that the architects of the present day are not as the architects of past time; it is equally easy to express a hope that those of the future will not be as those of to-day; but the more rational theory, as it is the more liberal, is that the men of other ages have been always pretty much the same as the men of our own, and that whatever enchantment distance lends to the view of the past from the present will in some like measure be kindly vouchsafed to the present when seen from a sufficiently distant point in the ages to come.

It is the chief peculiarity of the architect of the nineteenth century that he is of necessity an antiquary. His system of design is, as everybody knows, essentially founded upon the very copying of ancient examples. The fervour with which this is now pursued on the basis of the remains of the middle ages is exactly the same fervour which was displayed in the early part of the century, when the ruins of Greek and Roman buildings were the subject of study. We accustom ourselves to think that in better days gone by there was none of this; we are fond of speaking about the vitality of imagination in those times as contrasted with the æsthetic deadness of our own unfortunate age; when we confess ourselves copyists, it is with a boast that we are possessed of so much discernment; we profess to make up in this way for that deficiency of fancy which is not so much due to any fault in ourselves as to the transcendent genius of

the men of old time; we are even content to hope that our claims upon the approbation of posterity may be leniently regarded for the mere sake of our appreciation of antiquity; but it is becoming more and more probable, the more we understand the true temper of the past, that the merits of one generation are very much the same as those of another, and that the belief of the architect in the superiority of the antique is but one form of that ancestor-worship which has always prevailed throughout the human family, and always will. If these reflections lead us to the conclusion that the architectural profession of England at the present moment is composed of men who do their work well, we need not be ashamed to say so; they who hold the contrary opinion have only to pause for a moment in an examination of the real motives which they have been led to cherish, and they will perceive that these have less foundation in modesty than in various considerations of a somewhat opposite character; and it requires not so much a recognition of patriotism as an effort of common sense to cause an English architect of 1875 to see clearly enough that he stands fairly well, to say the least of it, as regards the whole world, present and past, and that the avowal of this self-appreciation is in fact the best way in which to encourage himself in an arduous task and to put to shame those uninformed busybodies who cling to the skirts of all professions, and who in his own case are perhaps a little more annoying than in some others simply because of their having been treated with more exceeding forbearance. It is not to be doubted that in the fifth century before CHRIST and in the thirteenth century after, in the days of PALLADIO and those of WRN, as in those of SIR JOHN SOANE and of SIR GILBERT SCOTT, the same unpleasing criticisms were proclaimed by the same classes of critics, and the same growth of popular misgivings was encouraged so long as they who best understood the matter were constrained to be silent to their own prejudice.

Of what may be the destiny of the new year as regards the progress—or the change—of artistic design, it is less easy than usual to hazard an opinion. There are many who are decidedly inclined to think that the popularity of Mediæval architecture is on the wane. At the same time it is impossible to say that any other mode has as yet begun to establish for itself the promise of a career. The revival of the so-called Queen Anne style has not apparently accomplished much. As a stepping-stone to something at once more artistic and more classic, it may possibly have a page of æsthetic history to fill; but thus far the mere effort to confer upon the crude brickwork of a few pauper schools and little else a character of picturesqueness which is not the Gothic character of the last ten years, is scarcely entitled to be regarded as a movement of any considerable dignity. No doubt it is a law of all artistic development that when once the magic influence of a popular mode is broken, however slightly, its days are numbered; but there need not be much fear entertained that the year 1875 will witness an architectural revolution, even in secular work—for the ecclesiastical is not in any way yet affected—or that it will even bring about more than a moderate step in whatever direction the movement of taste may presently be found to be tending.

As regards the advancement amongst architects of the important subject of scientific construction, it is to be feared there is not much to be said. The enterprises of the civil engineer, like those of his naval, military, and mechanical brethren, have assumed of late years in England and elsewhere a character so ambitious, so novel, and in short so far in advance of architectural building, not only when looked upon with reference to past purposes, but when considered in the light of present necessities, that a comparison between the skill of the building engineer and of the building architect seems to tend so much to the disadvantage of the latter that we are driven to take refuge in the reminder that such a comparison is really very little to the purpose. Bridge building and railway station building, like shipbuild-

ing and engine building, have come now to be little else than so many subjects of ironwork, in which vast dimensions and great cost confer upon the simplest problems of construction a semblance of recondite science, in which it is obviously impossible for house building to keep pace with them. In fact, as we need scarcely observe, iron, which is, beyond all others, the special material of the modern engineer, is found to be of such far less value to the architect than, except in the somewhat old-fashioned form of columns and girders, he is wisest who uses it least. In other words, when stupendous structures are in question, not necessarily intended to endure for long, and still less expected to stand without continual repair, iron is the only material which could have enabled the present generation to accomplish what it has done; but when we consider the much lighter work of architectural construction, the much greater durability that is requisite, and the assurance against the need of frequent repair which is particularly essential, it becomes clear that stone and brick, timber and slate, lead work and plaster work, cannot be superseded, but must continue to be employed in the old way. But at the same time it is not to be denied that the architect, by mere comparison with all sorts and conditions of ordinary scientific men, is seen to be in a position which demands his most earnest attention. He must certainly keep pace with other professional men. In sanitary appliances, in the contrivances of warming and ventilating, in plumbers' work, in fireproof work, and a good deal besides, there are subjects which have become so surrounded with complicated conditions that the stability, durability, convenience of plan, and weather-resistance with which our immediate forefathers were content have ceased to be any more than the mere first elements of housebuilding—producing only the shell which the architect is called upon to fill with detailed contrivances of the most intricate kind. That the demands of crotcheteers are visionary we need not say; neither need we deplore the fact that the more visionary they are the more urgently they are pressed; but if we are not prepared to assert that the architect ought to do his best to meet the whole, we are all the more ready to acknowledge the obligation that rests upon him to do his best to meet a reasonable part of such claims upon his ingenuity. When fastidiousness is increasing every day, it is obviously vain to oppose it with anything like scientific conservatism. Whether the new year will at its close be able to show any perceptible improvement in the internal contrivances of architectural building we are really unable to say; but we have no hesitation whatever in affirming that if architects will but put their shoulders to the wheel a good deal may be done within a very short time.

THE ARCHITECTURE AND COSTUME OF SHAKESPERE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

The Merry Wives of Windsor.

BEFORE we open the historical plays again I would venture to interrupt the sequence by introducing, at the pause in the action which occurs between the play of Henry V. and the first part of Henry VI., the comedy whose title heads this paper. I do this because five, if not six, of the characters in the comedy have already been before us in the histories, and in Henry V. the deaths of most of them have been announced. The Sir JOHN FALSTAFF, Justice SHALLOW, BARDOLPH, PISTOL, NYM, and Mistress QUICKLY of the comedy are the same persons as those of the same names in the history; but with this difference, that they are all younger than they were in the history or in 1402. The acquaintance between FALSTAFF and QUICKLY must have first begun at Windsor. At the end of the Second Act of the second part of Henry IV., when FALSTAFF has just left her to join the KING's army, QUICKLY says, "Well, fare thee well: I have known thee these twenty-nine years, come peascod-time; but an honest and truer-hearted man,—well, fare thee well." This farewell must have taken place in 1408, and by the simplest of arithmetical problems we arrive at the conclusion that the merry wives of Windsor must have played out their practical jokes before the end of 1380. Of course, I need hardly say that the comedy is thoroughly Elizabethan, and if the architecture and costume of Queen ELIZABETH's time were adhered to for this play, I see no reason for adverse criticism except in this—that the ladies' dress is not so graceful or so pleasing as that which was in vogue during the reign of RICHARD II. In adopting 1380 as the date of the action of this comedy, we must suppose the age of SHALLOW at the time to have been not less than fifty. By SHALLOW's own showing (Henry IV., Part II. Act iii. Sc. 2), FALSTAFF would be about ten years his junior, and SILENCE tells us (in 1408) that it was fifty-five years ago (or 1353) that SHALLOW first went to Clement's Inn; this would make the Justice, supposing him to have been twenty-four when he entered his Inn, seventy-nine and Sir JOHN sixty-nine on the occasion of their meeting at SHALLOW's house, in Gloucestershire. We might add a few years, but we could scarcely take any away. The BARDOLPH, NYM, and PISTOL of the comedy I take to be young men from twenty to thirty years of age, and Mrs. QUICKLY a woman of some twenty-six years. Sir JOHN could not certainly have been much more than forty when he made siege to the merry wives. In 1353 he was page to THOMAS MOWBRAY, Duke of NORFOLK, and, if we admit the above dates, would then have been thirteen years old. But whatever ages we make them out to be, it

is very clear that the FALSTAFF crew of the history must be removed twenty-eight years from that of the comedy.

Of the architecture and costume then, of 1380 there is little to add to what has already been said in the notice of the historical play of Richard the Second. The scenery is of the simplest character, and confined wholly to Windsor and its immediate neighbourhood. The houses of Master FORD, Master PAGE, Dr. CAIUS, and the Garter Inn would have probably been detached, and might have been of stone or of half-timbered construction. They would have been set back from the road, with courtyards or gardens in front, and their general character would have partaken more of the farm or manor style than that of the street architecture in Eastcheap. There is nothing now remaining in Windsor that can be quoted as any authority for these works of the fourteenth century. Elsewhere, however, we have many examples of the kind of house which is introduced in this comedy. Such buildings as those at Charney and Sutton-Courtenay in Berkshire, or the old rectory-house, West Deane, Sussex, are however sufficient for our purpose, and are illustrated in PARKER's "Domestic Architecture of the Middle Ages." There are timber houses at Lewes, in Sussex, and Weobley, Herefordshire, to which the scene-painter might also refer with advantage. But whatever may be done or left undone, we must bear in mind that the word *street*, as applied to Windsor, was by no manner of means what is now generally understood by the word; far even as late as SHAKESPERE's time it is extremely doubtful whether the houses in Windsor were not mostly detached.

The architectural scenes are—

1. Garden front of PAGE's house. (Act i. Sc. 1 and 2; Act ii. Sc. 1.)
2. A room in the Garter Inn. (Act i. Sc. 3; Act ii. Sc. 2; Act iii. Sc. 5; Act iv. Sc. 3, 5 and 6; Act v. Sc. 1.)
3. A room in Dr. CAIUS's house. (Act i. Sc. 4.)
4. A room in FORD's house. (Act iii. Sc. 3; Act iv. Sc. 2 and 4.)
5. A room in PAGE's house. (Act iii. Sc. 4.)
6. The street. (Act iv. Sc. 1; Act v. Sc. 3.)

Masters FORD and PAGE, though thoroughly Elizabethan, find their fourteenth-century parallel in the "Frankelins" of CHAUCER:—

"His brede, his ale, was alway after on;
A better envyned man was no wher non.
Withouten bake mete never was his hon,
Of fish and flesh, and that so plenteous,
It snowed in his house of mete and drinks,
Of alle dainties that men could of thynke.
After the sondry seasons of the yere,
So changed he his mete and his souper.
Full many a fat partrich hadde he in mew,
And many a breme, and many a lace in stew.
Wo was his cok, but if his sauce were
Poyntant and sharpe, and redy all his gere.
His table dormant in his halle alway
Stode redy covered alle the longe day."

After this we can fully appreciate the parsonic unction of our Welsh friend, "*Od's pleased will! I will not be absent at the grace.*" Now the houses these "Frankelins" would have had for their homes are clearly enough indicated in the examples I have quoted. Such may be briefly described as consisting of a central hall of one storey, with an open timber roof and a screen with a gallery over it, forming at one end of the hall a passage or entry, into which the front door opened, and from which by other doors one passed into the various domestic apartments. At one end of the hall, and sometimes at both ends, was a building of two storeys, containing the kitchen and offices and the bedrooms. This end building was usually so planned that its lines ran in an opposite direction to those of the hall, and thus we reached the common type of which Sutton-Courtenay may, perhaps, be accepted as the central example. The interior scenes would show us in all cases, except, perhaps, Dr. CAIUS's house, walls hung with worsted stuffs or "hallings," more or less embroidered. FORD, happy in the possession of so many angels, might have had the more costly work of Arras, in which case the picture curtains would probably have had margins of plain coloured cloth for preserving the edges of the work. Tapestry of one kind or another was the favourite and most common decoration of the interiors of that time, and a house of any pretension at all would no more be without it than would a house of the present day be without a carpet. If every theatre were managed with the same amount of artistic completeness exhibited by the manageress of the Prince of Wales's Theatre, it would be quite unnecessary to point out the variety and appositeness that pictured tapestry might be made to contribute to the interiors of the houses illustrated in this comedy, for in worsted as in "water-work" we know, in spite of FALSTAFF's depreciation, that there were many "a pretty alight drolery" and many a story as deep in its satire as the story of the Prodigal in a tavern of ill-fame.

The two street scenes and the field scenes would certainly not be complete without, in one or more, we had a glimpse of the towers of

that royal palace and stronghold where CHAUCER was Clerk of the Works. The usual street scene of the modern stage, if it has any the slightest pretension to belong to the Middle Ages, is a wonderfully elastic and convenient device. For we find it in the hearts of populous cities, and we recognise the same old friend in quiet market towns and villages; to-day it serves, and, perhaps, not altogether inappropriately, for Eastcheap in the time of HENRY IV., to-morrow it does duty at Windsor. In the summer we find it at Venice, supporting with its picturesque gables the figures of SHYLOCK and the merchants, and in the winter the dear old scene turns up again, doing duty in Canada, perhaps as the background of some modern trash or emasculated adaptation. Considering what small amounts are demanded by the most promising, painstaking scene painters, and what enormous amounts are paid for advertisements and monster placards, it does seem surprising that there should exist throughout the country such poverty of thought and such meanness of resource in almost every instance of an architectural scene being placed on the stage. The scene painter is not to blame, his order is to paint, not, mind, a scene altogether fitted to a certain play, but a scene that will serve the manager as a sort of general servant, attempting everything and doing nothing well. I venture to say that there is not a play put on the stage which might not have complete and special scenery of its own, without incurring any extra cost above its present gross outlay, and without reducing the receipts. A play properly represented on the stage makes every spectator a living poster and a walking advertisement, for people are gradually learning to rely more on individual opinion of friends they know and to whose judgment they can trust, and every day less and less on the great unknown whose criticisms are written on printed forms of pleasant adjectives with blanks for proper names.

To come back to our Windsor street, if we wish to realise the street even of ELIZABETH's time, we must remember that in many a country village, even to this day, the expression "I'm going up street" is quite a common one, although mayhap there are not two houses in the whole village touching one another. If we go further we soon discover that the word which we now confine to the thoroughfares of towns signified to SHAKESPEARE nothing more than a way or course. The Saxon word *stræt* means no more nor less than the Danish *stræde*—a small narrow lane. The Welsh have a beautiful distinction, *ystad* for a street generically, and *ystyd* for the street of a city or town. For the appearance of Windsor streets, as they were when Frankelins went a birding, we had better study the old villages of Berks, Surrey, Sussex, or Kent, rather than the close compact thoroughfares of cities and walled towns. At the same time we must guard against lowering the character of Windsor, for it was a free borough from the time of EDWARD I., and in the 30th year of his reign sent two members to Parliament. This last privilege it seems not to have enjoyed from the 7th year of EDWARD II. to the 25th of HENRY VI.

It is quite time that I turned to the more personal, and, therefore, to the actor and actress, more interesting question of costume, and this sentence reminds me of a sense very much needed just now, even by the best of histrionic artists. They seem, no doubt, to be getting more conscious of their surroundings than they were when I first remember them some twenty years ago; but while their consciousness is perhaps immeasurable, their surroundings are unfortunately limited to their personal appearance in the pier glass. Of course it is the merest truism to say that the individual actor or actress, however popular, is after all only a part—often a very important one, I admit—of the picture the dramatist creates for us. The dresses, the positions, attitudes, and height of the other figures in the picture, as well as the background or scenery, are just as much surroundings as the embroidered robe or jewelled cap; the only difference is, they are not usually so near the distinguished star as to break its special rays. Of course there are plenty of situations, such as long embraces, &c., where costume and costume must mingle in one lump, and where we continually see the most harsh and violent discord; and these, good actors sometimes arrange beforehand among themselves when, as is too commonly the case, they have to find their own dresses. But beyond this I fail to see that sense of harmony or fitness one would naturally expect from the education, experience, and artistic resources of the chief actors and actresses. Their artistic faculty is so clouded by a narrow ambition to attract attention, and to obtain the excitement of applause, that they become wrapped up, not in their art, but in themselves. They are indifferent to the scenery, know nothing about the styles, dates, or colours of it, and after acting fifty nights can no more tell you the country where they have been supposed to live their brief life than they can map the back of the moon. If they would interest themselves in studies collateral and helpful to the one special study of acting, if, instead of spending their time in visits and in useless, and too often worse than useless, conversation, they would endeavour to attain to some degree of culture, to know something about the places, the times, the costume, and the manners of the play they undertake to act, to take some note of the stage picture, and hold due counsel with the scene painter, we might possibly some day really see a play of SHAKESPEARE fairly represented on the stage.

What have I got to say about the costume? Nothing except to refer the reader to CHAUCER, and to my article on Richard II.

NOTES UPON REIMS CATHEDRAL.*

By WILLIAM H. WHITE.

THE coronation of PHILIP AUGUSTUS was celebrated in 1179 in the Romanesque Cathedral of Reims, which, after nearly four centuries of existence, was destroyed by fire in 1211. This cathedral, in which CHARLES-LE-SIMPLE, LOTHAIRE, and LOUIS D'OUTREMER, as well as HUGUES-CAPET, ROBERT, HENRY I., PHILIP I., and LOUIS VII., had been crowned, is said to have been the work of one RUMALD, whom, in 819, LOUIS-LE-DEBONNAIRE sent to Archbishop EBBON at the latter's supplication. In April 845 HINCMAR was elected Archbishop of Reims; under his rule the building was finished, and, according to the historian FLODOARD, the roof was covered with sheets of lead, the vault was painted, and the church had glass windows, and was paved with marble. On May 6, 1211, it was burnt to the ground, and a year afterwards (on the same day according to some, but according to other authorities on July 24) the first stone of the present cathedral was laid by Archbishop ALBÉRIC. The dedication, at least of a part of the building, took place in 1215; LOUIS VIII. was crowned in it in 1223, and LOUIS IX. in 1226; divine service was celebrated in the choir in 1232, and it was finished, with the exception of certain chapels, in 1241. By the year 1295, according to M. PROSPER TARRÉ, the niches were filled, the gargoyles vomited the rain which washed the roofs, thousands of figures were classified and put in their places, the towers were rising majestically, and the eye, astonished, inquired how art could be at once so light and so noble. But not long afterwards France was at war; the city of Reims was placed in a state of defence and fortified. In 1351 EDWARD III. of England laid siege to it. CHARLES V., however, was crowned there in 1364, and in 1372 Archbishop JEHAN DE CRAON accorded forty days of indulgence to those who gave fresh help to repair the church of "Our Lady." Two inscriptions prove somewhat as to the date of erection of the south tower in the west front: one, 1381, at the springing of the first floor in the arcading facing the Archbishop's palace; the other, 1391, is inscribed upon the sill of a small door at the foot of one of the kings (*galerie des rois*); and in 1427 Cardinal GUILLAUME FILLASTRE, formerly Dean of Reims, gave a considerable sum of money for the purpose of completing this same south tower, which was accomplished three years afterwards. But on the night of July 28, 1481, some plumbers, who had been mending the roof (the fire at Canterbury Cathedral a year or so ago seems to show that little is really learnt from parallel experience), left a brasier, half extinguished, among the timbers; and on the morning of the 24th smoke and flames were seen issuing from the *flèche* which crowned the choir of the cathedral. Eleven bells were melted by the heat of the fire, and others fell upon the vaults of the building. About three in the afternoon the roof, the central *flèche*, the transept gables, the parapet arcading crowning the walls, were completely destroyed before the fire abated; and it is attested by contemporary writers that the molten lead ran as far as the Croas of St. Victor, in the middle of the Rue de Vesle. The Canons were accused of negligence, and NICOLAS LE MEMBRE was deputed to excuse the town and throw the fault upon the "negligence de chanoines." Then King LOUIS XI., whose character is known to Englishmen from the graphic description of him by Sir WALTER SCOTT, is declared to have cried in a moment of irritation:—"Par Notre Dame! si faisons nostre devoir, ja mettrions de bons moines en nostre église de Reims, et chasserions d'icelle ces méchants chanoines!" At the death of this king CHARLES VIII. went to Reims to be crowned; and in a charter, dated from Vincennes, it is written: "... Desirant participer aux bien faits des prières qui se disent en ladite église, il octroye la somme de cinq deniers tournois sur chaque mynot quintal ou quart de sel à vendre en tous les greniers à sel du royaume, durant huit années consecutives..." All or nearly all the written agreements and contracts then made between the chapter and sundry master-workmen are preserved; and it is certain that no architect, general master, or any central technical authority other than certain canons was then employed. In 1516 these repairs were suspended, the western towers having been covered with a slate roof; so that thirty-five years after the burning they had not been able to completely restate what a few hours had sufficed to destroy. Yet, under the direction of HUGUES LIBERGIER or an elder ROBERT DE COUCY, it has been seen that the choir of the cathedral was sufficiently advanced to enable the priests to celebrate Mass within it only twenty years after the foundation stone had been laid.

Several inscriptions have been found, and a few afford positive evidence, but the name of the author of Notre Dame de Reims—the Queen of the Cathedrals of Western Europe—has not descended to posterity, and in all probability will ever remain a mystery. Neither are the names of the architects of Noyon and Laon Cathedrals known, nor those of Bourges and Chartres. WILARS DE HONECORT may have had something to do with Reims Cathedral, for between 1227 and 1251 he was directing the construction of a part of Cambrai Cathedral, and it is possible, as M. VIOLLET-LE-DUC says, that he designed the apsidal chapels at Reims, more especially as they are

* "Histoire de Reims." Ch. Cerf. Dubois. Reims.

"Dictionnaire Raisonné de l'Architecture Française." E. Viollet-le-Duc. Morel, Paris.

"Dictionnaire Raisonné du Mobilier Français." E. Viollet-le-Duc. Morel, Paris.

twice mentioned by him in his Sketch-Book. It is, however, nearly certain that LIBERGIER had nothing whatever to do with the cathedral. The monument, which represents him holding in his left hand a measuring-rod, and in his right the model of a church with two spires like St. Nicaise, with a compass and square at his feet, and an angel on either side of his head, bears the following inscription, which contains no mention of the cathedral—a mightier though not a more beautiful work than St. Nicaise:—

CI. GIT. MAISTRE. HUES. LIBERGIER. QUI. COMENSA. CESTE. EGLISE. AN. LAN. DE. LINCARNATION. M. CC. ET. XX. IX. LE. MARDI. DE. PAQUES. ET. TRES. PASSA. LAN. DE. LINCARNATION. M. CC. LXIII. LE. SAMEDI. APRES. PAQUES. POUR. DEU. PRIEZ. POUR. LUI.

In 1263 the cathedral was in use, and, had LIBERGIER been the original architect of it, it is hardly probable that his remains would have been interred in a neighbouring church which he had not lived to complete. ROBERT DE COUVY finished St. Nicaise, as the inscription referring to him proves; but ROBERT, who was "Maistre de Nostre Dame et de Saint Nicaise," died in 1311; and therefore it is impossible that he could have made the plans of a building known to have been commenced ninety-nine years previously. Nevertheless, an endless controversy has taken place over these two stones, and the good people of Reims, to clinch the difficulty, have named the street opposite the cathedral the "Rue Libergier!" and supported this decision with quotations from the writings of comparatively modern authorities. Other inscriptions are said to have been found in the celebrated "Labyrinthe," or maze in stone known as the "Maison de Dædalus," which consisted of a number of alleys or turnings incrustated in the pavement of the cathedral, and which have been supposed to be a sort of game of patience, contrived for the amusement of the workmen. But this was really a representation of the pilgrim's progress through life, was called the "Chemin de Jerusalem," and was connected with certain indulgences granted by the Church. It was destroyed in 1778. A similar maze existed a few years ago in the pavement of the nave at Amiens, and the names in copper letters of several masters, or master-workmen, were incrustated in the stone slabs. Names and inscriptions, however, afford but little assistance in the vexed question of the authorship of mediæval masterpieces. A glance at the plan of Reims Cathedral—at the order and symmetry which characterise the arrangement of tower, buttress, and column—suffices to prove the existence of some central authority or school of learned men, who, nowhere more than at Reims, have demonstrated for all time their extraordinary powers of creation, as far as man can create, by the philosophical, rather than the naïve, deduction of constructive principles.

All honour to the men who, in the twelfth and thirteenth centuries, taught the truths of Art! Nor should it be forgotten that it redounds to the credit of the present time to have rendered them apparent at least to the modern architect. His labours both with pencil and pen, his tentative "restorations" and consequent blunders, though they may have obliterated a few historical landmarks, have certainly recovered a knowledge of those constructive principles which guided the Mediæval masters. One principle, however, has not been, and probably will not be, adopted for a good many years yet—that is, the recognised principle of destruction which marks the Middle Ages, as well as other periods of history. An architect thoroughly imbued with the spirit of the Mediæval master would not patch up or "restore" a parish church merely because it was four centuries old; he would pull down and rebuild it. Although at Reims Cathedral the plan of the original master appears to have been respected even two hundred years after the foundation-stone was laid, modifications of all kinds were introduced into the subordinate arrangements of it. That the lower portions, from the choir to about half the length of the nave, is the work of a layman, is the opinion of M. VIOLET-LE-DUC, who thinks that it was intended to erect a loftier building than that which at present exists. The original architect was compelled to renounce his idea of erecting a colossal edifice for want of funds or other causes, because the plan of the upper storey does not respond in relative strength to that of the lower one. The buttresses project more than is necessary, and are far too strongly constructed to carry merely the comparatively light weight of the upper portions which receive the *arc-boulants* or "flying" parts of the buttresses. The difference between the upper and lower storeys is still more marked in the two gables of the transepts, where it was originally intended to erect towers, portions of which existed before the fire of 1481. Reims, it is well known, was in the "Domaine Royal," and there most of the cathedrals were constructed with the towers which distinguish the large churches built by the Benedictines of Cluny. At Laon and Rouen there were seven towers, and at Chartres there was the same arrangement with the exception of a central tower. At Reims, before the great fire, there were six towers as at Laon, and a central tower crowned by a wooden *flèche* covered and ornamented with lead.

In the thirteenth century GUILLAUME DURAND, Bishop of Mende, gave as a rule for the proper position of religious buildings:—"The head of the temple is turned towards the east (*l'orient equinoxial*), to symbolise the conduct, always equal, of the church militant in her victories and her misfortunes." In the twelfth century the statutes of the Chapter of Reims had proclaimed the same law. But the Abbé CERF, whose views are remarkably broad for so devout a churchman, does not believe that the cathedral was placed according to the position in which the sun rose on the day when the works

were commenced, because all the churches in Reims are pointed in the same direction—although they were built at different times of the year. He thinks it more probable that the architect planted his building so that the sun might dart its first rays into the middle of the apse on August 15, which is the fête day of the patron saint of Reims, because, he says, upon that day this result is obtained with a precision too astonishing not to have been originally calculated.

The stones used in the construction of the walls are generally of large, sometimes of enormous, size, and they are laid upon their natural beds. About halfway up the height of the building there are blocks of three and even four mètres long by one mètre high—say, twelve feet by three feet six inches, English. The walls of the western towers are 6 feet 7 inches thick in the lower storey. The principal stones were brought from the quarries of Marsilly, are known as the *roche rousse*, and are shelly, and to some extent porous. Upon a great number of them are masons' signs and marks, and these are observed both inside and outside the building. These are said to be the guiding marks which the master workmen used in the thirteenth and fourteenth centuries. They consist of heads, rounds ornamented with a cross, triangles, squares, &c., and they occur upon a stone as many times as there are courses superposed.

The statues which abound at Reims are generally of one piece of stone, which is fixed *en délit*—placed, that is to say, with the bed exposed vertically to the air. One of the characteristics of this building which renders it superior to the generality of Mediæval works is the quality of its sculpture. Some of the angels, done about 1225, at the angles of the apsidal chapels under the cornice are equal in point of execution to Greek statuary. There is nothing at the Cathedral of Paris to rival the Greek character of the north door of the transept at Reims, even though this door was finished before 1200. Both in composition and execution many of the draperies covering the almost colossal figures in the west front resemble Roman work; and this classical feeling, which pervades much of the early sculpture at Reims, is due to the numberless vestiges of antique art which then abounded in the metropolis of Belgian Gaul. One fact remains which may interest Frenchmen, who, from the throne to the garret, seem more or less inspired with the poetry of revolution. There is a statue of St. SIXTUS, the first Bishop of Reims, who is represented dressed in sacerdotal garments, with a breastplate (*rational*) and mitre; and this last is comical in shape, identically the same *bonnet* which, in the end of the eighteenth century, covered so many vandals' heads, and which, it has been thought, was invented at that period.

In the thirteenth century it was generally the custom to use wooden bond or temporary tie-beams during the erection of arcades, in order to sustain the lateral thrust until the piers were sufficiently weighted with masonry above them. Only then were these tie-beams removed, and the ends of some of them can still be seen imbedded in the soffits of arches at their springing just over the abacus of the capitals. At Reims, instead of wood iron hooks were inserted in the masonry, and iron bars, with an eye at each end, were used; and thus the equilibrium of the piers was maintained until they were strong enough to resist unaided the thrust of the arches they supported. Some of these hooks have remained in their places as they were originally fixed. Another proof of the robust character of the work at Reims is that in the stairs of the towers three steps are cut in one piece of stone, and the outer ends of these steps are supported by bits of stone, octagonal in shape, placed *en délit*. But in the storied windows alone may be seen the almost inapproachable character of the work of that time in general, and Reims Cathedral in particular. Some of the old traditions still cling to the manners of the chapter. A family of glass painters in the town have kept the cathedral windows in repair for more than the last hundred years; and a century before, in 1640, an ancestor of the same family executed the windows of the "Minimes de Rethel." In 1684, before the erection of a new building in the court of the archbishop's palace, certain early glass furnaces were discovered. But the names of the original glass painters have not transpired. The earliest inscriptions are—"JEAN MONNEUZE, garson vitrier, 1688;" "PIVORI, gars vitrier, 1682;" and these are probably the pretentious authors of ill-executed repairs. Yet the art of painting upon glass was practised at Reims in the eleventh century, since, according to M. HERBÉ in his *Histoire des Beaux Arts*, a monk named ROGER made his name famous in that city by the beauty of the windows that he painted. Glass painting, withal, is as old as the Christian era, and it has been pretended, though upon doubtful evidence, that HORACE ornamented the glass windows of his apartment with licentious pictures. It is certain, however, that the art was known in the fourth and sixth centuries, and painted glass is mentioned by SUTONRUS, an author who, in his own words, was a young man twenty years after the death of the Emperor NERO. To the painters of the twelfth century the writings of St. BERNARD were vast sources of wealth, and formed the text of a thousand sermons in glass. One of the great rose windows of Reims Cathedral is an almost literal illustration of the death and assumption of the VIRGIN as described by JACQUES DE VORAGINE in the *Legende dorée*.

The effect produced upon the crowd of ignorant and really faithful worshippers by such marvellously brilliant illustrations as the storied windows of Reims can now be easily conceived; but to describe it, it is still impossible. How small an influence similar Mediæval work—of undoubted merit and rare value in the eyes of the

present generation—exercised upon the feelings of even educated people only thirty years ago is known to living men; and this, though it can be described, is inexplicable to those who are now reaping the benefits of the revolution which has almost silently taken place in the public mind—a revolution not less efficacious to the prosperity of England than that of the last century was pernicious to France, when much of the inestimable treasure preserved in the different cathedrals was ruthlessly converted into money; when the statue of Liberty was “*élevée au lieu et place ci-devant Sainte Vierge*” in the cathedral of Paris, and the words in colossal characters—“*Temple de la Raison*”—were inscribed upon that portal, beneath which each hereditary King of France, with one Protestant exception, from PHILIP AUGUSTUS to LOUIS XVIII., had humbly passed to receive the blessings of the Church upon his coronation.

THE DUTY OF A COMPETITION REFEREE.

IN our last week's issue we did not hesitate to publish an appeal addressed to the professional referee of a certain architectural competition by one of the disappointed competitors, calling upon him in the interests of the profession to show why his report on the designs should not be published, notwithstanding the refusal of the committee whom he had been advising. The name of Mr. EDIS as the complaining competitor affords a sufficient assurance that the complaint is made in good faith; whilst that of the referee is none the less a guarantee that the part taken by him in the decision will bear the closest investigation.

The case in question seems also to be in itself a very fair specimen of such transactions; and this again enables us all the more easily to consent to an examination of the claim set up by Mr. EDIS. It was a competition of what is called the select or private order, limited in fact to four architects; and amongst other conditions it was promised beforehand that a professional referee should be called in, and that the author of the best design should be employed to carry out the work. If a competition of architects is to be considered allowable in any circumstances at all, it would certainly be so under these conditions; the number of disappointed competitors would be only three, and their disappointment would be the result of a professional opinion and report. These are precisely the terms which for years past the approvers of the system have been contending for as a cure for all evils; and in the present case “there was evidence on the part of the committee,” says Mr. EDIS, “of a desire to act conscientiously and fairly.”

The subject being a church not far from London, it was the esteemed architect to the Ecclesiastical Commissioners who was invited to be the referee, and he consented to act. The four designs were duly delivered under mottoes. They were publicly exhibited. For some reason not explained the committee thought fit, as an afterthought, to post up in the exhibition-room the names of the authors, but probably that was of no moment in one way or the other as regards the result. The professional referee was then called upon to advise the committee on the merits of the designs, and he did so by means of a report in writing, in the usual and proper way. The committee in due course issued their decision. Mr. EDIS found himself one of the disappointed. Rumour suggested that the selection of the committee was not that of the referee. Mr. EDIS therefore applied to the committee for a copy of Mr. CHRISTIAN's report. This was refused. The application to the referee himself in our columns last week is the next step; and when we are told that the design chosen by the committee is suspected of being the one that was “placed last by Mr. CHRISTIAN,” and that the estimated cost of it is confessedly some twenty per cent. over the stipulated sum, it certainly may be considered that on these grounds alone a *prima facie* case, at all events, is made out for the production of the report.

It must be borne in mind that the adherents of the competition system, in their recent agitation for the rule of professional decision, have always had it in their mind that the report of the referee should be a public document. But for this principle, the reference to a professional architect for so-called advice would obviously be no boon at all. Granting even that the expert, as the representative of knowledge, is not actually to decide, and supposing it to be fully conceded to the committee, as the representatives of ownership, that the privilege of selection, altogether apart from the counsel of their professional adviser, shall be retained, yet the satisfaction of having the report published has still been considered to be due to the disappointed competitors as a mere general rule of fair play. Without this it is obvious that the conclusion arrived at by a committee could not be expected to command the assent of the disappointed; whereas, on the other hand, the open acknowledgment of even the most arbitrary rejection of the report, and without so much as assigning reasons, would go far to justify the committee in their adoption of a course which they were not ashamed of avowing in spite of prejudicial appearances.

We are thus enabled, however, already to discern the weak point in the expedient of introducing a professional referee. The committee of proprietors or promoters and the body of competitors accept it, in fact, under a mutual misunderstanding. It is a peculiarity of all competitions that each competitor is so certain of being himself entitled to win as to feel somewhat careless about the disappointment of those who are destined to lose; and consequently

every one's desire is to secure the appointment of a proficient referee as a means towards his own success. The whole body of competitors, therefore, rely primarily upon the expectation that the non-proficient committee will, out of courtesy and good sense, accept the advice of the referee without further inquiry as an obligatory decision. At the same time there is no doubt that the committee are generally possessed of the notion that the counsel of the expert will, as matter of course, turn out to be precisely in accord with their own common sense. But these are fond imaginings; and one thing at least is certain—that some, if not the whole, of the committee are all the while reserving to themselves most absolutely the right of supreme judgment, and regarding the referee as no referee at all, but a mere adviser, whose report is to be their property, to do with it as they please. Suppose this state of things were clearly seen on both sides beforehand, and a prudent lawyer were called in to establish a definite understanding on position, rather than negative ground, what would he do? Let us suppose that he would first suggest to the parties to agree that the selection made by the referee should be binding on both. Very possibly the competitors might accept this, each one relying upon his own merit; but the committee would be almost certain to object, or at the utmost to allow only a small premium to go by the referee's decision, leaving their own further proceedings entirely free; indeed this is the mere common sense of the matter. If the legal advisers were thus to propose that the committee should distinctly reserve to themselves this right of final adjudication, and the competitors to content themselves with stipulating that the opinion of the referee should nevertheless be properly respected, no doubt this condition would be cheerfully agreed to on both sides; but to what end? Practically to none at all. It is, in short, in order to avoid coming to close quarters upon these very points that the slipshod conditions of ordinary competitions of the best class are drawn up by one party, approved by the other, and, when it is too late, repudiated by both.

Now in what way is all this illustrated by the example before us of the church for East Twickenham? “In selecting the plan which may be adopted, the committee shall call in a consulting architect to advise with them.” The committee are to select; the referee is to advise. Therefore, says the honorary secretary, in reply to the request of the disappointed competitor for the publication of the referee's report, such a report is only “a document of a confidential nature obtained by the committee for their guidance,” and “its terms ought not to be communicated to any one not on the committee.” That is to say, the committee having originally expected that there would be in the report of so able a critic as Mr. EWAN CHRISTIAN nothing but the same conclusions at which their own wisdom would independently arrive, and having eventually found themselves nevertheless compelled to take quite another view of the matter, that opinion of his, which under happier auspices would have been so gladly confirmed and so freely published, as a confirmation of their own, has become but a failure which is best forgotten, a stumbling-block best set aside, a piece of rejected advice best relegated to the limbo of unsuccess. As an extreme stretch of courtesy it is spoken of as a thing “obtained for their guidance;” but they have preferred after all to be guided by their own judgment, and the professional guide of whom they had hoped better things has only to be paid his fee and respectfully dismissed. As for the competitors who may object to this, one word is sufficient—they have no rights. The referee has “advised” and the committee have “selected” in the precise terms of the covenant.

The question remains whether in such circumstances the referee ought to publish his report. Many people will at once say he ought. For the committee to publish it is one thing; but that they should object to its being published by him would be quite another. The committee act for a body of subscribers, and they may well decline to take the initiative in submitting to their constituents a document which they have felt obliged to reject. Even if it were accompanied by an explanation of their reasons, this might not improve the situation. But that Mr. CHRISTIAN, upon the request of any one of the disappointed competitors, should furnish a copy of his report and permit its publication, may well be looked upon as a simple act of duty towards his profession. No just man can allege that the candidate whom he placed first is entitled thereby to nothing; and if entitled to something, the frank publication of the report in his favour may not unreasonably be said to be an essential part of that something.

From the letter which appears elsewhere it will be seen that Mr. CHRISTIAN in this case prefers to consider himself to have been employed by the committee to deliver to them a report and nothing more; and therefore desires to confine himself within the strict limits of such a retainer. To interfere between the committee and an aggrieved competitor he looks upon as a thing which is altogether beyond his province. This ground he may believe to be all the stronger because his appointment came not from the competitors at all, although apparently on their behalf, but from the committee solely for the benefit of their cause. Indeed it is probable that a lawyer would very decidedly advise him to stand upon this as a principle, and that a mere man of the world would with equal force recommend him to avoid recognising any principle at all except that of keeping himself out of the quarrel. We have little if anything to say to the contrary; but at the same time we cannot forbear regarding the case from the more generous standpoint of the duty which a professional referee owes to his brethren. This

at least may be said, that if Mr. CHRISTIAN, upon further consideration, should publish his report, he may possibly be involved in a little unpleasant controversy without, but he can scarcely fail to become more popular within, the profession in which he is already so deservedly esteemed.

MR. BAILLIE COCHRANE, M.P., ON ART.

AT the opening last week of an exhibition in connection with the Ryde School of Art, Mr. Baillie Cochrane, M.P., delivered an address, in the course of which he said:—

Art, or rather all arts, are of vast importance in the education of the mind. They form one sisterhood—music and poetry being their appropriate attendants. Painting, says Horace, is a silent poem. Ruskin tells us painting, and art generally, is a noble and expressive language; and another eminent writer observes that painting is making manners. We have also the authority of Cicero "that all arts belonging to humanity are linked as it were together, and are related in affinity to one another." If we examine into the history of art in all ages we shall always find its highest conceptions associated with the highest national characteristics. When the Parthenon and the Propylea sprang into classic beauty on the Acropolis of Athens, the city of the violet crown had attained her proud pre-eminence in Greece. The greatness of the Roman Empire and the greatness of those monuments which excite the wonder and admiration of the traveller had grown and flourished together. It was in the days of Titian and Velasquez that Spain was compared to a ship with her prow in the Western and her stern in the Indian Ocean, and she uttered the proud boast that there was not wind enough in the heavens to fill the sails of her galleons. Again, the grandest days of the Italian Republics of Florence, Venice, Genoa, were associated with the greatest masters of painting, sculpture, and architecture, and who reads the history of François I. reads the history of the Renaissance—the new birth of art in France. I come now to our own country, and I cannot say I am able so readily to illustrate the sympathy between the arts, literature, and our national greatness as in other nations. There was, after a dark period, what was called the Augustan age—when literature and artists of great eminence flourished together; but, in truth, it is, I think, only within the last few years that we as a nation have become sensible of the vast importance of the arts in relation to the progress and the refinements of our social condition, and even to the happiness of men's lives. One great intellect did comprehend this, and the master-mind of the ever-lamented Prince Consort, who was himself skilled in those arts of which he was the magnificent patron, erected the first Exhibition in 1851, from whence dates the growing appreciation of art in England.

The truth is, that for a long period nothing could be worse than our taste. A hundred or a hundred and fifty years ago our churches were the lowest imitations of Greek temples or Egyptian tombs. The mansion-house of that period was a great square structure with what were styled wings—why did they not fly away with them?—always with a Corinthian or Doric portico, and an inevitable sheet of water, called by the family circle a lake. "What order of architecture," asked a critic, "is that building?" pointing to an extraordinary structure at Bath, which was in progress under Mr. Nash. "That, sir," replied the builder, "is Mr. Nash's positive order." Pope has left us his opinion of the taste of that time:—

For what has Virro painted, built, and planted?
Only to show how many tastes he wanted.
What brought Sir Visto's ill-got wealth to waste?
Some demon whispered, "Visto, have a taste."

Yes, for in spite of bad taste great wealth was lavished on these buildings, and extravagance with eccentricity abounded.

Nor was gardening any better understood than building—taste, really, did not seem to have any existence in the country. We read that a great officer of state, who, to commemorate the coronation of Queen Anne, had all his shrubs cut in shapes to represent the various dishes of the coronation banquet, while he was cut out with a sword in his hand at one end, and her Majesty in perpetual green at the other; and a celebrated landscape painter of that day drew a picture of Paradise as full of square plots, straight walks, groves nodding to groves, and artificial waterworks. It is almost unnecessary for me to dilate before such an audience on the advantage in the education of the minds of art and taste, of the love of the beautiful in all things. I have been speaking of gardening, and even in what may seem so small a matter as in flowers their culture is blended with the culture of the mind. The famous gardener of Henry IV., Maitre Mollet, said, "I would that every house and every cottage possessed its garden, that men might learn to give glory to God." We may be sure that in the cottage where the flowers are best tended the gentlest natures are found; and, as the song so gracefully expresses it, the charm of a rose looking in at the window belongs to every condition of life.

Bonaventura says that "Beauty is nothing else but excellence; it belongs to the journey of the mind to God. Beauty is truth, and truth is beautiful." So Count de Maistre, "A taste for art implies a love of peace, and it shows a great many little pathways to a love of truth. By liberal arts," he says, "I mean those arts that liberate a man from selfishness, and secure for him his own perfect liberty." May I now be permitted to say a few words to those who are entering on this new world of ideas with the advantage of youth, and all the gifts and charms which youth should possess, for to many here may be applied the language of Miranda—

'There's nothing ill can dwell in such a temple.'

The object of all art, all culture, is to raise the genius and to mend the heart. To study the beautiful is to learn to love nature and nature's God. Sir Joshua Reynolds says: "Painters require piety, virtue, magnanimity, and a contempt for anything that is unworthy of them." It has been well said, whoever learns a new language possesses a new life, so every art, every science, opens out new sources of enjoyment. The greatest men of

ancient and modern times have turned from the storms of public life, and found their happiness in the pursuits of literature and art.

All the greatest statesmen will testify to the relief they have found in literature after the troubles and anxieties of public life—the late Lord Derby, Mr. Disraeli, Mr. Gladstone, are proofs of this. The proudest monarchs have found their labours lightened and their lives gladdened by a love of studious art. Philip II. and Philip IV. of Spain, René of Anjou, and François I. were all proficient in one branch or another of art, and all have borne testimony to the charm which it added to their lives; and, when I mention great monarchs, may I be permitted to refer to our own most gracious Sovereign?

I have trespassed already too long; only let me, before I conclude, urge on those art-students who I see around me fully to appreciate the advantages which they possess in their generation. If we are living in an age of intense competition, it is also an age when success and the prizes of success are open to all; and, say what we may, as a general rule "the race is to the swift, and the battle to the strong." "Au tu existimas," exclaimed the great orator of antiquity—*au tu existimas*, do you expect to conquer in the field of competition unless you bring to the struggle all your energy, and contend with every difficulty? There is for you a great future. You have the noblest object of excitement, not only to raise yourselves, but because you cannot raise yourselves without elevating the minds of others. And, still more, the interest in art is a universal interest; it is of all communities, of all classes, of all ages—it has been well called the republic of letters, and the republic of art; because high and low, rich and poor, old and young, have equal delight in the works of genius, and do homage to its greatness. And, as a proof how perfect is this harmony in the due estimation of merit, I will only add one observation, from which not one of this great assemblage will dissent—that if you will look around this exhibition, on all its objects, animate and inanimate, you will learn, like myself this evening, more fully than ever to appreciate the love of the beautiful.

SANITARY REQUIREMENTS OF SECONDARY SCHOOL BUILDINGS.

THE last number of the *Sanitary Record* contains a Paper, by Mr. E. C. Robins, F.R.I.B.A., entitled "A Sanitary View of Secondary School Buildings for Day Scholars." We extract the following remarks from it:—

The sanitary qualification of any building for its destined uses is a comparatively modern requirement. Yet the chief portion of every one's time is spent somewhere studying to acquire, or practising the acquisition of some life occupation. The home, the office, the shop, the warehouse, the factory, the barrack, the ship, the church, the assembly room, the theatre, the college, the hospital or the school, are each and all so many centres of healthful exercise or of baneful disease, just in proportion as the sanitary aspects of the several cases are well or ill considered and provided for.

It cannot be otherwise than advantageous to the public weal that the interest already awakened should be quickened by clearer intelligence respecting the principles involved in the maintenance of healthful surroundings, and by a knowledge of the best practical application of those principles to every kind of human habitation.

The principles are few and of universal application; but the practical adaptation of theoretical propositions is not at all so simple a matter as it appears to the uninitiated. Earth and water, light and air, are the elements of the principles involved, which may be summarised under the following conditions:—

Healthful Conditions of Site.—Levels, aspect, surface, subsoil, drainage, &c.

Healthful Conditions of Water Supply.—River, well, surface, spring, or otherwise; its collection and retention for use.

Healthful Conditions of Light.—Its use and abuse, and the relative proportions of window and floor areas.

Healthful Conditions of Air: as affected by each of the foregoing conditions, and by its introduction and abstraction, its change of place and temperature; in short, the art and science of warming and ventilation.

It is satisfactory to reflect that the major part of the new Board Schools are models of good planning, where the interest of the teachers and taught are paramount, and the buildings and grounds are not devoted to a variety of purposes, but exclusively considered with reference to their sole object, that of places of instruction and recreation.

But what of secondary schools, and especially secondary schools for the girls of the future? The rising intelligence of the lower stratum of society will act with Titanic force in raising the standard of intelligence required in the upper strata; provision must and will be made for the inevitable progression demanded.

And as yet no state aid is forthcoming, as in foreign countries; therefore no state control. Consequently the only security for the erection of suitable buildings is the popularisation of the principles involved in the construction of good school-buildings, so that the common sense of the promoters may influence the decisions of committees, and lead to the appointment of men well versed in the questions at issue, and the preparation of such instructions as shall be in harmony with sanitary laws as well as educational requirements.

Let us now summarise some of the sanitary requirements of such schools.

Healthful Conditions of Site.—The choice of a site in a town is often no choice at all, but a gift—or a choice only of the lesser of two evils. But when it can be obtained in a quiet street, and may be detached from adjoining buildings and have a recreation ground or garden round, it is to be desired: if not, the architect must study to overcome its disadvantages, and take care to obtain a free circulation through the building if he cannot have it round it—avoiding corridors as much as may be, and providing facilities for cross ventilation by opposite windows.

There should be no basement storey unless a good half of it would appear above ground. The levels of the ground should all fall from the

building, and be drained by trapped sinks, easily opened for cleansing, and secured with a key from interference by the children.

In towns the playground should be asphalted, and asphalt is to be preferred to stone or tiles for flooring basements, when wood floors are not more desirable.

The aspect should be remembered in settling the general plan; and the lofty part of the building should be at the northern end of the site if practicable, that the recreation ground may always enjoy the southern sun.

South-eastern and north-western windows are best, giving bright and cheerful light; but northern light is also desirable for drawing-classes, or where reflected light is also obtainable. Nothing is more grateful than to see the sun from the shade.

The nature of the subsoil is an important element in judging of the fitness of a site. A gravel soil is best, but a strong clay is good, too, provided always it is treated accordingly; deeper foundations will be required, and the concrete must have small land drains to carry away the moisture often brought by intermittent sand veins crossed by the foundations. If the site is damp and boggy, a layer of concrete may be wisely spread over the whole surface of the site, as I have found it necessary to do prior to the construction of one of the Board Schools near the Tunnel Pier at Wapping, which building is a good illustration of what is meant by cross ventilation, and how it may be obtained even in confined neighbourhoods.

Respecting the Drainage.—Keep all the drain-pipes outside the enclosing wall of building where you can; but if the building is not detached, and the sewer is in the front roadway, then the main drain will have to pass under the school-house, as in every other house in London.

But this need not cause defect if rightly provided for; thus, all junctions with this main drain may usually take place outside the walls, and every junction should be syphon trapped, with syphons having a capped opening for cleansing. The best place for a trap to every descending pipe is at the bottom of the stack, so that the fall of water may clear the trap. A trap placed in the middle of a horizontal drain gets no scour. There should be a ventilating pipe for the main drain to relieve the pressure of air from the sewer, which is often very great if the building is near the highest level of the sewer. In all schools the yards should be well drained, and the conveniences should be external to the building, but reached by a covered way. Earth-closets are good for the country and latrines for town, if any water-closet apparatus exists in the upper floor of the building for teachers' or visitors' use, the soil-pipe should be continued up and through the roof for ventilation.

Healthful Conditions of Water-supply, &c.—Where the source is a well or spring, it is most important to know whether or not there is any cess-pool, old drains, or other impurities likely to affect the quality of the water. In towns the water company's supply is presumably good; but care must be taken that it is stored in healthful receptacles. Lead cisterns and pipes are common enough, but unless tinned inside, prejudicially affect the water; galvanised iron cisterns are better; but slate are best. All cisterns should be cleansed out thoroughly at least once a week, and should be covered, and should not be put in any position where impure air passes over the surface.

Healthful Conditions of Light.—The German Doctor Cohn has said that each school or class-room should have 30 square inches of window light to every square foot of floor space, or a little more than a fifth, deficiency in lighting being, in his opinion, the cause of the prevalent short-sightedness of the Germans. But of course it is presumed that the windows are not overshadowed by other buildings, and that their position is well considered.

The value of the light provided will be neutralised if it is not discreetly used. The benches and desks should be so situated that a left light should be available, and that the shadow from the hand or person may not fall on the work in hand or in the eyes of teachers or taught.

Such desks must be used (single or in pairs) as are best fitted to the anatomy of the human frame.

Dr. Liebreich has studied this very carefully, and designed a seat and bench on physiological principles, so that every part of the body may be at rest, whether sitting or writing, with the means of adjusting the slope of the desk to 20° for writing and 40° for reading.

The School Board have adopted a modification of his system, arranged in groups of dual desks, 3 feet 4 inches long, with intervening gangways 16 inches wide and five rows in depth.

Healthful Conditions of Air.—The warming and ventilation of a building should always be taken together. The changes to be effected in the air are the result of its rarefaction by different degrees of temperature.

In moderately sized class-rooms the open fireplace is all-sufficient for warming, and in all cases where but one grate is required it is the best; not to mention others, it is enough to state that Mr. D. O. Boyd's School Board stoves will answer the purposes required, inasmuch as they not only provide heat by radiation, but are constructed to admit a very large area of fresh air from without, which, passing over the heating surfaces provided at the back of the stoves, is admitted into the building sufficiently warm to cause it to ascend, and to distribute itself about the room until it is drawn away by the extract shafts which should be provided in the upper part of the room, and in the neighbourhood of or between the smoke flues, these extract shafts to open on the side of the chimney stacks about three feet below the top where the smoke escapes.

Without a provision for withdrawing air, it is of no use providing for its income, since a room can hold no more air than water: as is the stagnant pool to running water, so is the stagnant atmosphere of a closed-up room to the fresh air moving in and out of the openings provided for its entrance and exit. It is well to have other ventilators under control for the admission of air from without to any extent required: the open fire is fed by the heavier air which it consumes.

When open fires are not used, hot air and water systems can be introduced at greater first cost, but at less expense in maintenance. At the new Board Schools at Stepney, lately described by Mr. T. R. Smith, fresh air is

admitted to a basement, where it is warmed by passing between flat vessels in which hot water is circulating at low temperature. The air so heated is conducted along flues carefully built for the purpose, to every room in the building, and discharged through inlets near the floor. A class-room, twenty feet by twenty-seven, and thirteen feet high, has, for example, two of these inlets, and practically a current of sweet warm air is constantly pouring into the room through each of them. Near the ceiling of each room is an opening leading to an extraction-flue: all extracting-flues are led into air-trunks running along the roofs and meeting in a central chamber, where a nest of hot-water vessels, similar to those below, heat the air and cause a rarefaction of the same, sufficient to stimulate the outgoing current, and a steady stream of air is found, in actual practice, to be constantly flowing in and out of each room and along these extracting channels.

In all cases the windows should be lofty and their tops not less than a foot from the ceiling—double hung, if sash-windows—though some prefer hospital windows, the upper portion only falling inwards, and causing the draught to be upwards at its first entrance, and to strike the ceiling before falling with a force equivalent to the strength of the incoming current.

When a staircase is warmed openings about three feet square may be made with great advantage over the room doors opening from its landings, filled in with a sash hung on pivots in the centre, or by hinges to the transom head of door-frame.

In all day schools a most important consideration is the cloak-room; for girls especially this must be ample in size, and fitted with convenience not only for hanging cloaks and bonnets, but for drying the same during school hours if damped by rain. Provision must also be made for depositing umbrellas without confusion, and for storing shoes and taking them on and off. Economy may result from making the play-room a bonnet and cloak room, in which case it will be requisite to make it twice the size and to occupy the surrounding walls only with the bonnet and cloak rails; and conveniently adjoining, if not in it, there should be a lavatory with at least five basins for every 100 scholars.

The steam and odour from drying damp clothes makes it essential that this room should be thoroughly well heated, and ventilated by opposite windows as well as the usual precautions. The children's entrance and exit will be through this room, and it will be intermediate between the school and playground.

THE GLASGOW INSTITUTE OF ARCHITECTS.

A SPECIAL general meeting of the members of this Institute was held in Glasgow on the 22nd ult., Mr. John Baird presiding. Eight new members were admitted, viz., Messrs. Petrie, Knox, McNaughtan, Carmichael, Cowan, Bruce, Starrock, and Miles. The prizes for assistants or pupils, amounting to 22l. 10s., offered by Mr. J. J. Stevenson, of Great George Street, Westminster, for the best series of measured drawings and illustrated sketches from any secular or religious edifice in Scotland erected prior to the eighteenth century, were distributed. The committee appointed to adjudicate upon the sets of drawings awarded the first prize of 10l. to Mr. G. W. Browne, who had selected New Abbey, Kirkcudbrightshire, as a subject; the second prize of 7l. 10s. to Mr. Wm. Miller, who had submitted Linlithgow Church; and the third prize of 5l. to Mr. W. H. Ross, for a drawing of St. Magnus' Cathedral, Kirkwall. A sum of 5l. was awarded to Mr. Ferguson, who was only disqualified on account of the number of the set. The chairman intimated that the Institute had determined to offer a silver medal annually as a prize for a similar competition.

THE SUB-WEALDEN EXPLORATION.

THE ninth quarterly report of this exploration has just been issued by Mr. Henry Willett, the honorary secretary. It would appear that very little has been done for some time past, owing to the obstructions in the boring hole not having been removed. The Diamond Boring Company, however, have promised that this shall be done as soon as possible, and, as the honorary secretary points out, the contractors cannot afford to fail. Attention is drawn in the report to a lately published memoir of Professor J. Gosselet, of Lille, on the coal fields of the North of France. In it the Professor says:—"I do not agree in the opinion either of Mr. Prestwich or of Mr. Godwin-Austen, and so far from making the coal basin pass to the north of London, according to the former author, or in the Thames Valley, as the latter supposes, I believe that it should be sought for in South Kent, in Sussex, and in Hampshire. I have also good hope that the boring now undertaken by the English, and persevered with so skilfully, will find either coal or the adjoining strata. The commencement of coal boring on our side would be as important for us as for England." The discovery of gypsum in Sussex is spoken of as one of the triumphs of the Sub-Wealden Exploration. On Mr. Egerton's estate adjoining, sheds have been erected, a shaft sunk, and the gypsum has been reached by boring at the depth anticipated. In Archer's Wood, distant about three miles N.E., Mr. Bosworth also discovered gypsum (by boring) at a depth of 169 feet, and then abandoned the search.

ART EXHIBITION IN PARIS.

THE Paris papers state that the plan of the building for the exhibition of paintings from the provincial museums has now been definitely adopted. The construction will be of a rectangular form, extending from the railing of the Tuileries, between the two gates which open on to the Palace, and which are left outside, to a line starting from the salient formed by the Pavillon des Etats. It will be 160 metres long, 60 wide, and will cover a space of 13,000 square metres. The triumphal arch will be enclosed within the building. The cost is estimated by the Council of the Union Centrale, which has undertaken the outlay, at 200,000 l.

ILLUSTRATIONS.

THE MUNSTER BANK, DUBLIN.

THE Munster Bank, which we illustrate this week, has been opened for business within the last year. It was erected by the Munster Banking Company (Limited)—one of the most flourishing of the Irish banks. Although of recent organisation, they have already assumed a forward position, which will shortly place them second to none in Ireland. In Dublin they have acquired by purchase the interest in the old firm of LA TOUCHE & Co., and have, as managing director in that city, Mr. W. D. LA TOUCHE, a gentleman who is remarkable for his universal business habits and unvarying courtesy to all who know him.

The building embraces the usual requirements of a bank, spacious cash office, rooms for the manager, managing directors, board room, &c. The cash office is 60 feet long, 37 feet wide, and 40 feet high. Beneath are strong rooms. To the right of entrance are the other apartments referred to, and on the first and second storeys the sub-manager's living rooms.

The stone used in the exterior is the limestone from Ballinasloe and Drogheda. The capitals and carved portions are in Portland.

The whole work has been carried out without a contractor, and, as an example of workmanship, is excellent.

The architect was Mr. T. N. DEANE, R.H.A., under whose superintendence the building was erected. This gentleman has been fortunate in obtaining some of the finest sites for his works in Dublin, amongst which we may mention the Crown Life Office (already illustrated in the *Architect*); the Liverpool, London, and Globe; the Scottish Provincial; the Scottish National, and (now about to be commenced) offices for the Scottish Widows' Fund. Nearly all of the foregoing are corner sites, which have given scope for much architectural effect.

The total cost of the Munster Bank was about 21,000*l*.

THE PARIS OPERA HOUSE.

THE following trenchant criticism on this building is from the Paris correspondent of the *Guardian*:—The incident which seems just now to be looked forward to with the greatest interest as the crowning point of the season of 1875 is the inauguration of the new Grand Opera or Academy of Music. I had an opportunity—which is now more rarely accorded in the present nearly completed state of the interior, on account of the interruption to the works—of going over the building a few days ago; and I wish I could hope to satisfy the curiosity of such of your readers as may take an interest in the matter by any description I could give them of it. But the thing is simply impossible; for no word-painting, or at least none of which I am capable, would suffice to convey to the mind a tittle of the impression which this strange, stupendous, Babylonish, Ninevitic temple of modern pleasure conveys to the eye. I wish, too, I could say that either impression was calculated to be of a more agreeable nature. For that M. Garnier, the architect, is a man of genius, and of very daring genius, it is impossible to deny; and as one saw him there in the midst of his 500 work-people, with his wild, haggard face, the ugliness of which is a proverb, under the huge mass of thatch which represents hair, begrimed with dust and paint, looking the very soul of energy, and of French energy, too—evidently heart and soul in his work, and believing, I have no doubt, that that work was to crown him with artistic immortality—seeing all this in the man, and fully acknowledging the zeal and talent that must be in him, one could not help feeling sorry that they had not been expended to better purpose, and in the production of something different from the astounding agglomeration which made one aghast to look at it.

One reason why it is difficult to describe M. Garnier's work is that it is so utterly overcharged, overdone, over-elaborated in every sense, that it is impossible to make head or tail of it. But that it is also overpowering, overwhelming even in its extravagance, there is no denying. Another reason is that it is such a strange jumble of styles that every shaft, gallery, and cornice would require a volume to itself to describe the variety it displays. For instance, the pillars of the grand saloon, or *foyer*, which stretches across the entire *façade* of the building fronting the Place de l'Opera, and running immediately behind the open arcades, or *loggie*, which there look out upon the Place, comprise, in their bases, which extend up one-third of the shaft, and in their capitals, which extend nearly as far down, something apparently taken from every style in the world—Assyrian, Hindoo, Greek, Egyptian, and Roman. And architraves of doorways and panellings and everything else are in the same style, if "style" it may be called. There are two things that strike one pre-eminently in gazing round upon this strange scene—one by its absence, the other by its presence. The first is the absolute deficiency of anything approaching to good taste, elevation, or refinement, though it must be allowed that this defect is relieved from all reproach of tameness or poverty by a vigour, extravagance, and audacity displayed in such flights of imagination as are seldom to be met with. That which makes its presence to be felt in the new opera is something of a different kind again. It has been justly remarked of Gérôme's celebrated picture of the Roman Amphitheatre, that its great and chief merit is the impersonation of paganism, of which it conveys the idea, and which is so skillfully diffused over every feature of it. The very air seems pagan, as much as the face of the bloated Cæsar, or the crowd of armed brutes, rather than men, below who hail him. One does not expect a Grand Opera, and especially a French Grand Opera, to be exactly a Christian edifice, even in the nineteenth century; but neither surely need it bear the semblance of a Temple of Paganism. Yet the latter is undoubtedly the predominating impression

which M. Garnier's interior conveys. From the masks, with their open mouths and eyeless eyeholes, which glare upon you from the walls, to the deities in the ceilings, and the endless details spread all through the architecture and decorations—everything is pagan and barbaric. Nor is it that sort of light, airy paganism to which we give such names as the Temple of the Muses or other cheerful-sounding designations; but hard, coarse, brutal, licentious paganism, such as we associate with amphitheatres and arenas. One expected every moment to see a troop of gladiators come on to the stage, and to hear the roar of wild beasts instead of the music of the orchestra. It is difficult to say exactly how this effect is produced; but assuredly the *spirit* that seems to reign through the place is something far more associative with the Roman bath and the amphitheatre than the modern playhouse. As I have said, description is impossible, and would quite fail to convey any idea of the *spirit* which seems to breathe all round. I might tell you, indeed, that the grand staircase is loaded, and overloaded a thousandfold, with everything that the most prodigal profusion of bronzes, and statues, and candelabras, and gilding, and onyx can produce in overwhelming confusion and bewildering richness. But it is to the destruction of all lines and proportions, and the same might be said of every leading gallery and corridor about the place. The height and depth above and below the stage, whether you look down or up, are portentous, and make you giddy to contemplate, so immense is the space devoted to mere machinery. The sweep of the house, a deeply depressed elliptical semicircle, is wide and imposing. But the decorations there, as everywhere else, bear the same stamp, and leave the same impression; and the Royal, Imperial, or Presidential tribune (whichever it is to be) looks as if its most fitting occupant would still be Gérôme's Emperor, and the *Morituri te salutant* the most appropriate utterance of the arena below.

When I say, however, that most parts of the interior of the building are indescribable from their excessive ornamentation and heterogeneous character, an exception must be made in favour of a corner which, from its singleness of purpose, does perhaps admit of description, and which may also be taken as a fair specimen of the kind of tone which prevails throughout. This consists of a saloon behind the stage, called the *foyer des danseuses*, wherein the ladies of the *corps de ballet* are entitled to admire and exercise themselves during the interval of their appearance on the stage. One entire end of the saloon is occupied by a gigantic mirror, which exactly doubles in appearance its size. The other end and sides are adorned with paintings by the luscious, not to say licentious, pencil of Boulanger, so well known for designs of this description. These consist, first, of portraits of all the principal *danseuses* who have figured on the boards of all the theatres of the world—the divinities, in fact, of the place; while below are depicted groups of dancers, male and female, as voluptuous as nudity and action combined can make them. Here it would not do to be too accurate in description, though the task would be easy enough. Suffice it to say, that a more sybaritish temple, or one more appropriate to its destination and its occupants, than this *salon des danseuses*, it would be difficult to imagine. The effect of the whole place was simply shocking, sickening in its voluptuousness. "*Il y a plus d'enfer ici que de ciel*," whispered a Frenchman to me; just as before, while traversing some other parts of the building, an Englishman had suggested that he had never so clearly recognised what the *decadence* of an age and nation was as when contemplating such a spectacle as this Opera House being thus completed, decorated, and about to be inaugurated, and with such enthusiasm, by France, at such a moment! And, truly, when one thinks of the crisis, the awful crisis, through which France has passed, or may be said to be only passing—the ruin, debt, havoc, defeat, and shame which have befallen her, and are still weighing so heavily upon her—when one thought of the fabulous ransom already paid to her conquerors and the sums yet to be expended to repair her losses—perhaps, too, when one recalled the Emperor's famous injunction to his Prefect that the *Hôtel Dieu* must be finished before the Opera, and knew that not a bed in the former was yet ready—when one thought of all this, and looked round at this huge temple of pagan-like voluptuousness and sensuality, the sums lavished upon it, and such a spirit as that of which I have attempted to convey some idea imprinted upon it—it was impossible to leave the building without grave doubts about the future of a nation which could devote the energies and resources yet left it to such objects, and find consolation for its reverses in such allurements, and at such a moment.

I have omitted to notice that the entire wing of the building, which, by the original design, was devoted to the Sultan-like reception and accommodation of the Imperial family and suite—with its inclined plane leading up to the very door of the Imperial tribune, its Imperial *foyer* and ranges of marble columns, its private *salon* and dressing-room for the Empress, its waiting-room, guard-rooms, stabling, coach-houses, &c., as though the occupants of a night intended to take up their abode there—all this is shut up and left in deserved seclusion and incompleteness—at least for the present. According to contract the rest of the theatre is to be delivered, completed, into the hands of the director by the beginning of the year, and the inauguration will take place as soon afterwards, I presume, as circumstances will admit. Experiments in lighting the house have taken place on two occasions, in the presence of a large number of visitors, to whom, on the latter day, not less than ten thousand tickets had been issued. After the doors, which had been kept closed to the last moment, had been thrown open for admittance, nearly as many more persons, unprovided with tickets, contrived to get in, so that at one time it is calculated the house contained nearly twenty thousand spectators, which, however, produced no visible crowding in any part of the house. The effect of the lighting, as far as *foyer*, staircase, and corridors were concerned, was most effective, the *foyer* especially presenting a perfect blaze of light; but the interior of the theatre was left in a sort of semi-obscure, the lustre and lighting from above being insufficient for the purpose of throwing light enough on the principal tier of boxes. On Saturday the *foyer de la danse* received for the first time its intended occupants, Mesdames Sangalli and Beaugrand, with the entire *corps de ballet*, having taken possession of it for a general repetition of two or three of their favourite ballets.



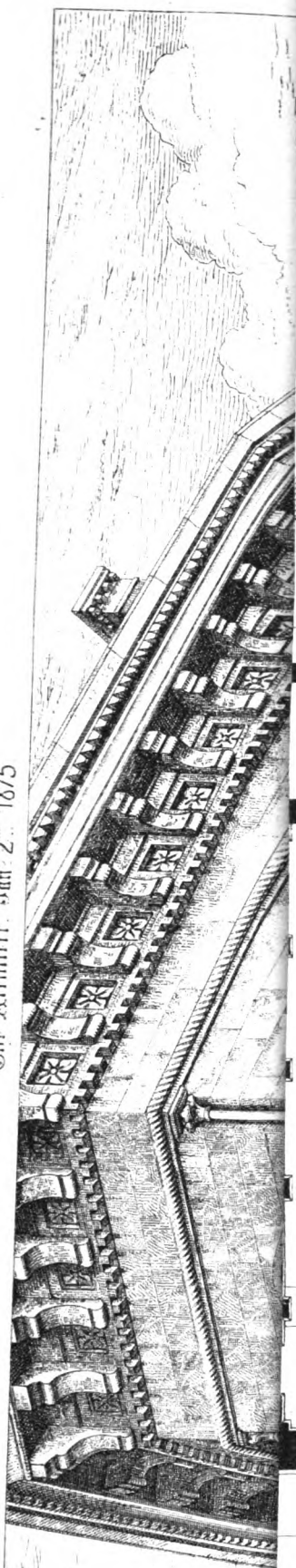
Albert Betts lith. Moruan.

Printed by W. W. Jackson & Co. London, E.C.

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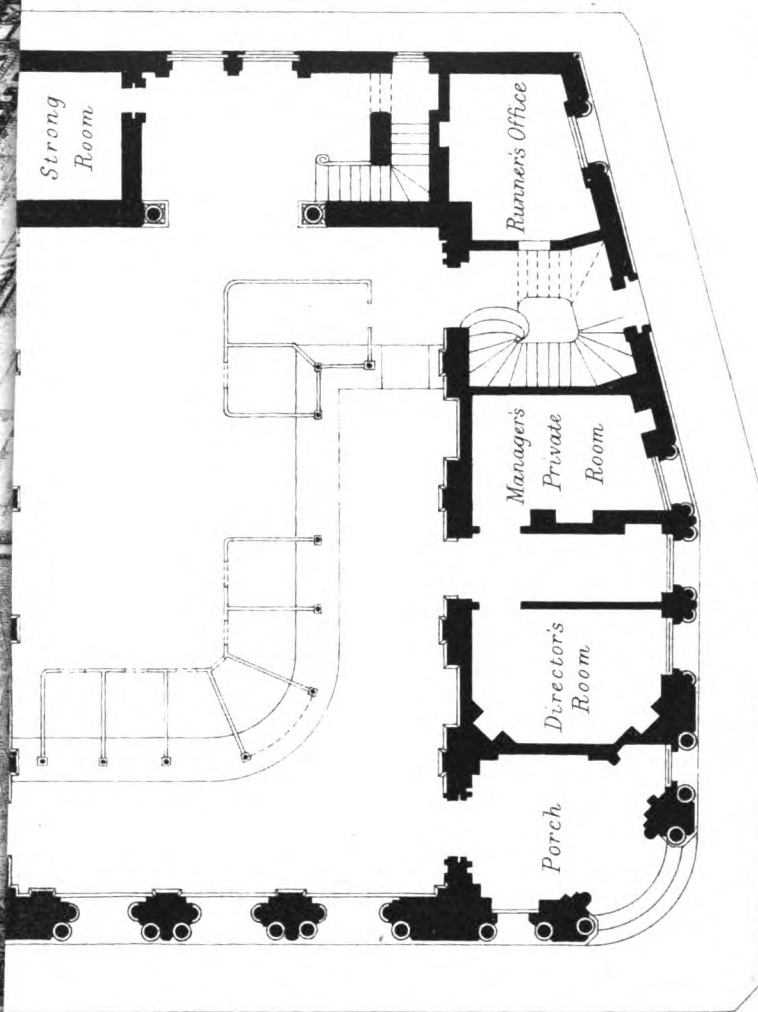


The Architect. Jan 2nd 1875



PLAN

DAME STREET



Strong Room

Runners Office

Manager's Private Room

Director's Room

Porch

THE

MUNSTER BANK,

DAME STREET,

DUBLIN.

T. N. DEANE, ARCHT

ENTRANCE TO DUBLIN CASTLE.

Lithographed by Albert Rota, Meridale.

Printed by W. W. Jackson & Co. London E.C.



THE PRINCE CONSORT AND ENGLISH ART.*

THE first volume of Mr. Theodore Martin's "Life of the Prince Consort" does not refer to a time later than February 1848. It can, therefore, treat only of the earliest efforts of the Prince to promote English art. The history of those days is, however, not without interest, although the admirers of the Prince could hardly deny that his influence was not fully recognised and had not much effect until about the time of the first International Exhibition, some three years later.

Prince Albert's education would seem to have been intended to make of him one of those many-sided men so dear to German hearts. He was supposed to have distinguished himself at the University in natural sciences, political economy, philosophy, public law, and the like, and he studied the higher mathematics and the doctrine of probabilities under no less a master than Quetelet of Brussels. In spite of this scientific training he retained a genuine love of the fine arts. He could play well on both the piano and the organ, and, according to Sir Francis Seymour, the monks of the Badia in Florence expressed their admiration on hearing his performances on their organ during one of his visits to the church in 1838. The picture galleries of Florence, he said, intoxicated him with delight. This love of art he carried with him to England. Writing of 1840 (the year of the royal marriage) Mr. Martin says:—

"During this early period, and for some years afterwards, the Prince kept up assiduously, what the pressure of public duties, as the years went on, compelled him in a great measure to forego, the active practice of the arts of design as well as of music. Both in painting and in musical composition he had acquired considerable technical skill; and in the latter the Queen and himself found a delightful occupation for their scanty leisure."

Mr. Thomas Landseer, we believe, had the privilege of teaching Her Majesty the art of etching. Here we may recall some strange legal proceedings that took place in the latter part of the year 1848 (and which are now likely to be forgotten), through which the public first were made aware of the practical interest that Her Majesty and the Prince had in this art. A printer and publisher in a humble way, named Strange, in conjunction with other men, advertised the exhibition, under the title of "The Royal Victoria and Albert Gallery," of a series of over sixty etchings, which had occupied the royal artists from 1840 to 1847, to enable, as was said, "the whole nation to form an opinion of Her Majesty's and the Prince Consort's merits in a branch of the fine arts in which, as it has been admitted, it is so difficult to excel or even to arrive at a stage beyond mediocrity." A catalogue was published of the collection, which not only described the etchings, but contained a number of criticisms in this style:—

"This, as Her Majesty's first attempt, may not only be described as a most creditable production, but as manifesting talent and genius of the highest order. It will be seen that Her Majesty's autograph and the date are reversed, clearly indicating that no assistance was rendered by more experienced hands, who would not have fallen into an error so usual with young beginners, &c., &c." The etchings had been surreptitiously obtained, it was believed, through one of the journeymen printers, who took impressions from the plates. An information was applied for, and Strange at once became alarmed, and offered to suppress the catalogue, and not to hold the exhibition. The case was a swindle, and when it came before Sir J. K. Bruce he said he believed that a public exhibition was never intended, and that the project was announced and the catalogue printed merely with the view of Her Majesty and Prince Albert paying a sum to prevent the exhibition.

The Prince Consort's first official connection with the fine arts in England was as Chairman of the Royal Commission for the Encouragement of the Fine Arts. According to his biographer:—

"One of the first acts of Sir Robert Peel, after the instalment of his Ministry, was to suggest that the Prince, whose wide range of knowledge in art and science was by this time generally known, should be placed at the head of a Royal Commission to inquire whether advantage might not be taken of the re-building of the Houses of Parliament to promote and encourage the Fine Arts in the United Kingdom. The inquiry had been carried on for some time by a Committee of the House of Commons; but it had been found from its nature, and the protracted investigations to which it led, to be more properly the subject of a Royal Commission."

While the subject was under the consideration of Parliament the Prince wrote a letter to Sir Robert Peel, in which he says:—

"I was glad to see that your announcement of the intention to form a Royal Commission was so well received in the House of Commons. I have thought much of the proposed plan, and have arrived at the conviction that there had better be no artists by profession on the Committee. The benefit of an artist's opinion would be as well or even better obtained by taking it upon examination, as this would enable the Commission to procure the different opinions of a greater number of artists. I am afraid, moreover, that the discussion upon the various points would not be so free amongst the *laymen* if distinguished professors were present, as these would scarcely venture to maintain an opinion in opposition to those of the latter

class. I only give you my crude views, and have no wish whatever to press them against the experience of others."

This suggestion was, no doubt, in accordance with the precedents of Government Commissions, which, as a rule, are remarkable for the absence of those who are best acquainted with the subjects under inquiry. But it may be doubted whether, ten years later, after having a deeper experience of the working of some English institutions, the Prince would not have advocated a different and more serviceable arrangement of this Commission. The constituents, it is true, presented what Mr. Martin calls "a remarkable array of names;" such peers as the Duke of Sutherland, Lord Lyndhurst, Lord Melbourne, Lord Colborne, with commoners like Sir Robert Peel, Sir James Graham, Mr. Hawes, Mr. Gally Knight, Mr. Vivian, Mr. Wyse (not Vyse, as in Mr. Martin's book), and Mr. Samuel Rogers, all very dignified, but essentially amateurish; and to this it is owing that the class of work adopted by the Commission for the decoration of the Houses of Parliament has turned out a failure. The reports of the Commission, however, have merits of their own, which are due, not to the "remarkable array of names," but to the learning and skill of the Secretary, who was no more than "an artist by profession."

Sir Robert Peel, as might be expected from one who had worn official harness so long, agreed with the Prince's suggestion. To do otherwise would be to condemn most of the former commissions which he promoted. In a letter written the following day, he says:—

"Your Royal Highness's suggestions with regard to the constitution of the Commission are entitled to and shall receive the fullest consideration. I am strongly inclined to think that the views of your Royal Highness with regard to the including of professional men in the Commission are perfectly just. It was equally gratifying to me to be the medium of announcing to the House of Commons that your Royal Highness had been graciously pleased to give the immediate sanction of your name and authority to this Commission, and to witness the cordial satisfaction with which the intimation was received in every quarter of the House."

"Eight days later," adds Mr. Martin, "Sir Robert Peel writes to the Prince, with the list of persons proposed for the Commission, adding, 'Your Royal Highness will perceive that the selection is made without the slightest reference to party distinction.' This had, indeed, been made by the Prince a condition of his acting upon the Commission; and in his reply, after stating that the selection appeared to him to be an admirable one, he continues:—'I can only rejoice that party distinctions should have been excluded from this national undertaking.'"

The Prince was fully sensible of the advantages of his position as Chairman as an initiation into public life, and acknowledged to the Queen his obligations to Sir Robert Peel. It taught him, he said, more than anything else had done. Mr. Martin remarks:—

"No better introduction into English public life than the Chairmanship of this Commission could have been desired for the Prince. The subject of inquiry, besides being peculiarly congenial to his tastes, was one in which he was thoroughly at home. The Commission, constituted wholly without reference to party, included men of the first distinction in politics, art, and literature; and while in the collision of such minds the Prince could not fail to acquire that knowledge of the character of the most influential men in England, and that insight into English ways of thinking and transacting business, which it was all-important for him to obtain, he was able at the same time to let his own high qualities be seen where they were most sure to be appreciated, and to establish a reputation which, radiating from such a centre, was certain to be heard of throughout society, both widely and soon."

The Commission was appointed in November, and the Secretary was Mr. (afterwards Sir) Charles Eastlake. A letter has been preserved, dated December 2, 1841, in which he graphically narrates his first official interview with the Prince, and in which the manliness of the writer is noteworthy. By insisting that the competition that was about to be opened for the decoration of the Houses of Parliament should be restricted to native artists he rendered good service to the country, for it ought to be remembered that at the time, owing to the exaggerated accounts which were received and accepted of the success of Cornelius (who was then in England) and other frescoists, it was proposed to allow German artists to compete.

"After waiting five minutes," says Mr. Eastlake, "the Prince entered alone. . . . He made at once for the window recess, in which I had been standing, though on his entering I advanced to the middle of the room and bowed. He stood, kneeling with one knee on the chair, while he talked, so that we were at close quarters and in a strong light, which showed his beautiful face to great advantage. . . . There was nothing in his exterior so striking as his face. He is exactly like the engraving from Ross's miniature, but now a little stouter. . . . He soon put me at ease by his pleasing manner. After speaking of Sir Robert Peel and the immediate cause of my waiting on himself, we proceeded to discuss the question, which is hereafter to engage our attention more. I listened to his plans, and made objections where I thought it necessary. Two or three times I quite forgot who he was, he talked so naturally and argued so fairly. . . . It would be impossible to give all the conversation, and perhaps, as relating to the subjects to be discussed by the Commission, not quite right. I thought, however, that the moment was come when I must make a stand against the introduction of foreign artists; for if his Royal Highness had insisted on this I had made up my mind to resign my secretaryship. I almost said as much by observing that I was irrevocably committed on

* "The Life of His Royal Highness the Prince Consort." By Theodore Martin. Volume the First. Smith, Elder & Co.

that point by my letter to the chairman of the late committee. Prince Albert said he knew I was, for he had read that letter. He added, however, that he quite agreed with me. I then said I saw no objection to English artists, who might be entrusted with the management of considerable works, employing Germans under them. To my agreeable surprise, Prince Albert would not even admit that this was necessary, for he said he was convinced that in all that related to practical dexterity, which was the department in which it was assumed that some instruction (for fresco) would be necessary, the English were particularly skilful. He observed that in all mere mechanism the English generally surpassed all other nations. He gave several instances, and among others said, 'Even to the varnish on coaches it is surprising how much more perfect the English practice is than that one sees on the Continent.'

"In alluding to the means by which a school of rising fresco painters might be encouraged he said, 'There are two great auxiliaries in this country which seldom fail to promote the success of any scheme—fashion, and a high example. Fashion, we know, is all in all in England, and if the Court—I mean the Queen and myself—set the example hereafter by having works of this kind done, the same taste will extend itself to wealthy individuals. The English country seats, which are the most beautiful in the world, would acquire additional effect from the introduction of such a style of decoration, and with such occupation the school would never languish, and would at least have time to develop itself fully.'

"This is perhaps a word-for-word specimen of His Royal Highness's accurate and graceful conversation. I could not come up to it; but on one occasion, speaking of the limited character and means of frescoes, I said that it might in some sort be compared to sculpture, which could conceal nothing, and in which necessity of defining involved the necessity of beauty. The Prince paid me the gracious compliment of saying, 'You have expressed in a few words what I would have said in many.'

The immediate object of the Commission was the discovery of the best means of decorating the Houses of Parliament. It was doubtful whether oil paintings or fresco would be the more suitable, whether there were artists capable of working in the latter medium, or artists who could represent historic scenes in a style that would be worthy of the walls. A competition for cartoons was, in the first place, resolved upon, and there were offered three premiums of 300*l.* each, three premiums of 200*l.* each, and five premiums of 100*l.* each. This was to be followed in 1844 by another competition for sculpture, and we believe it was intended to have still further competitions among painters on glass, carvers in wood, and other decorators. Mr. Martin says that the Prince entered with enthusiasm into the labours of the Commission, and this was testified at the time by some of the members. "There is no member of the Commission," said Mr. Gally Knight, "who has laboured more regularly or assiduously than Prince Albert; no member whose opinions have been of greater service. He not only takes an interest in the arts, but he understands them." It was decided that the cartoons were to be executed in chalk or charcoal, but without colours, and that in size they were to be not less than ten, nor more than fifteen feet, in their longest dimension, with the figures not less than life size. About one hundred and fifty works were sent in under these conditions. The majority of the leading members of the Royal Academy did not compete. The first-class premiums were awarded to Messrs. Watts, Cope, and Armitage; the second-class to Messrs. Townsend, Horsley, and Bell; and the third-class to Messrs. Parris, Selous, Frust, Severn, and Bridges. The cartoons were exhibited in Westminster Hall, and so many people paid for admission to see them that the commissioners were enabled to present ten more prizes of 100*l.* each to other competitors. None of these designs were used in the adornment of the Houses of Parliament. On the subject of this exhibition Mr. Martin writes:—

"The first public result of the labours of the Royal Commission on the Fine Arts was an Exhibition in the summer of this year in Westminster Hall, of cartoons, for which prizes had been offered, on subjects illustrative of English History and Poetry. The Exhibition opened on July 1, and the Prince watched its effect upon the great crowds who thronged the Hall while it lasted with the closest interest. What he then observed filled him with hope for the development of a taste for art among the people, which might become an important agent in elevating their character and habits, while it gave a higher aim to such of our manufactures as were connected with the arts of design. The interest shown in this Exhibition by the labouring classes was indeed remarkable; and, as noted by Sir Charles Eastlake at the time, it afforded 'the strongest proof of the love of the lower orders for pictures when they exhibit an event':—

"I abridged," he adds, writing on July 22, 'the Catalogue to a penny size for the million, but many of the most wretchedly dressed people prefer the sixpenny one with the quotations, and it is a very gratifying sight to witness the attention and earnestness with which they follow the subjects with the books in their hands. . . . All the workmen of the Houses of Parliament go in, but chiefly in the evening, because, being as white as millers (the masons) they have themselves the discretion to time their visit. You will see by the catalogue that the references and quotations are often good of their kind, being indeed from the highest sources. I stated to the Commission yesterday, that these catalogues in the hands of so many thousands would be the first introduction of many to an acquaintance with our best poets and writers, and the importance of the Exhibition as a means of humanising the people was daily felt.'

So little had been done in the decoration of public buildings in this country that even if the Commission had been of a more practical cast a great divergence might have been expected among the members. There

was no doubt that some would have had Cornelius employed as director of the frescoes; others were for having oil paintings only, while a third party advocated a mixture of both systems, with Cornelius and other foreigners for the frescoes, and native artists for the oil paintings. It would appear that the systems of decoration adopted for the Houses of Parliament were not a little owing to the Prince:—

"Himself a great admirer of fresco painting, the Prince threw himself with great zeal into the question of its applicability for the decoration of the Houses of Parliament, and the researches into the best methods of applying it, which occupied much of the attention of the Commission. The opinions of its members were not a little divided as to the subjects to be dealt with. Some considered that mere decoration by arabesques and otherwise was alone necessary; others condemned any attempt at a moral aim. The Prince took an opposite view, holding that the purposes of decoration might be combined with a patriotic and moral aim, and that, although many would give but a passing glance to the works, the painter was not therefore to forget that others might view them with more thoughtful eyes. This was the view which ultimately prevailed, and there can be no doubt it was the sound one. For the incidents embodied in the frescoes, which now decorate the walls of both Houses of Parliament, although the frescoes themselves have failed for the most part most pitifully in the durability that was hoped for, excite the liveliest curiosity in the crowds which may be constantly seen around them."

In his conversation with Mr. Eastlake, the Prince Consort spoke of intending to set an example of introducing fresco painting in private buildings. Before the experiments in fresco were attempted in the Houses of Parliament he engaged eight of the Academicians and some other artists to decorate a pavilion in the palace grounds:—

"To stimulate the interest in fresco painting the Prince determined to have it applied in the decoration of a summer house or pavilion in the garden of Buckingham Palace. E. Landseer, Macclise, Uwins, Eastlake, Leslie, Sir William Ross, Dyce, and Stanfield received commissions, and vied with each other in producing a series of eight lunettes in illustration of Milton's "Comus." The Queen and Prince watched their progress almost from day to day; and the following extract from a letter by Mr. Uwins (August 15, 1843) is valuable, as showing the impression produced by their visits upon one of not the least gifted of the artists, in whose labours they testified so warm an interest:—

"The opportunity so lately afforded me of becoming acquainted with the habits, tastes, and in some degree with the intellectual acquirements of the Prince and the Queen has greatly increased my respect for them.

History, literature, science and art seemed to have lent their stores to form the mind of the Prince. He is really an accomplished man, and withal possesses so much good sense and consideration, that, taken apart from his playfulness and good humour, he might pass for an aged and experienced person, instead of a youth of two or three and twenty.

The Queen, too, is full of intelligence, her observations very acute, and her judgment apparently matured beyond her age.

It has happened to me in life to see something of many royal personages, and I must say with the single exception of the Duke of Kent, I have never met with any, either in England or on the Continent of Europe, who have impressed me so favourably as our reigning sovereign, and her young and interesting husband.

Coming to us twice a day unannounced and without attendants, entirely stripped of all state and ceremony, courting conversation, and desiring rather reason than obedience, they have gained our admiration and love.

In many things they are an example to the age. They have breakfasted, heard morning prayers with the household in the private Chapel, and are out some distance from the Palace talking to us in the summer house, before half past nine o'clock—sometimes earlier. After the public duties of the day, and before their dinner, they come out again, evidently delighted to get away from the bustle of the world to enjoy each other's society in the solitude of the garden.

Our peaceful pursuits are in accordance with the scene; and the opportunity of watching our proceedings seems to give a zest to the enjoyment of these moments snatched from state, parade, and ceremony. Here, too, the royal children are brought out by their nurses, and the whole arrangement seems like real domestic pleasure.

These hurried moments given to the study of art were seized by the Prince with a zest which only those can feel whose hours are filled with the cares and responsibilities of a crowded and anxious life."

There is little more in Mr. Martin's first volume of the biography which can have a special interest for us. In 1845 the estate of Osborne in the Isle of Wight was purchased, and the well-known residence was planned by the Prince. We can hardly believe that this means he was the author of the design, which, in character, is so common-place, and unlike the buildings in which he spent his earlier years. "His wishes," the Queen writes, "were most admirably carried out by the late Mr. Thomas Cubitt, than whom a better, kinder man did not exist." The Office of Works, it would appear, had an ill reputation in 1845, as in 1874, and even in the highest quarters; for Her Majesty, in announcing the purchase of Osborne to her uncle, writes with glee—"It sounds so pleasant to have a place of one's own, quiet and retired, and free from all Woods and Forests and other charming departments, which really are the plague of one's life."

In 1846 the Prince reached Liverpool for the first time, in order to lay the foundation-stone of a sailors' home. The great works of engineering on the Mersey, he said, far exceeded his expectation. Poor Elmes was then alive (he died the next year), and had the privilege of escorting the Prince through the works of the St. George's Hall. Of this visit Mr. Martin writes:—

"A careful survey was made of the St. George's Hall, with which considerable progress has been made. Mr. Elmes, the architect, found to his delight that every architectural feature of novelty or importance which he would have wished to be noticed was appreciated and commented on by the Prince. At the docks and warehouses it had been the same. The Dock Engineer, Mr. Jesse Hartley, a man of the first eminence in his profession, was at once surprised and gratified by the technical knowledge of hydraulic engineering shown by the Prince."

"So close and practical was the Prince's interest in the details of the work that he requested that a sample of the granite-rubble masonry used in the docks, by the excellence of which he had been struck, might be sent up to him at Windsor Castle. These details are given on the authority of Mr. Robert Rawlinson, C.B., an intimate friend of both Mr. Elmes and Mr. Hartley, from whom he received them at the time. 'St. George's Hall,' Mr. Rawlinson writes, 'is a noble monument of the artistic skill of the young and gifted architect. The Liverpool docks are among the finest specimens of hydraulic engineering in the world.' The Prince was at home with such men amidst such works. To an architect he could talk as an architect; to an engineer, as an engineer; to a painter, as a painter; to a sculptor, as a sculptor; to a chemist, as a chemist; and so through all the branches of Engineering, Architecture, Art, and Science."

One can hardly interpret these latter words literally, or believe that the Prince was a veritable Admirable Crichton, who had taken all knowledge as his province. But they indicate what was one of the characteristics of his mind. His desire was to be acquainted with those who were masters of such subjects—with genuine artists, and men of science—rather than with the tribes of *dilettanti* and mere talkers. This inclination seemed to become stronger as he grew older, and but for his untimely death it might have led to most beneficial results for the artists and savants of England.

BATTERSEA BRIDGE.

THAT ancient timber obstruction, by custom and courtesy called a bridge, says the *Times*, which for more than 100 years has spanned the River Thames at Battersea, is about to undergo some alterations which will certainly win for its present proprietors the thanks of all who are in the habit of navigating the above-bridge portion of the "silent highway." These alterations will consist in widening the waterway at two points in the bridge, for which purpose four of the spans will be converted into two. The history of the bridge stretches away considerably into the past, and, taken in connection with the ferry which it was built to supersede, and which belonged to the original proprietors of the bridge, it is directly traceable to the commencement of the seventeenth century. Before noticing the improvements about to be carried out, a reference to the history of the old bridge may not prove devoid of interest. As a rule, river bridges have generally been preceded by ferries, and to this rule Battersea Bridge forms no exception. A ferry which preceded it was in full operation when James I. came to the throne, and presumably belonged to the Crown, inasmuch as by Royal Letters Patent, and for the sum of 40*l.*, the King gave "his dear relation Thomas, Earl of Lincoln, and John Eldred and Robert Henley, Esquires, all that ferry across the River Thames called Chelchethith Ferry or Chelsey Ferry." Some adjacent lands were included in the grants, and the grantees had the power to convey their rights to "our very illustrious subject William Blake." The Earl of Lincoln was the owner of Sir Thomas More's house in Chelsea, he having purchased it from Sir Robert Cecil. In 1618 the Earl sold the ferry to William Blake, who also had a local interest in Chelsea, inasmuch as he owned Chelsea Park, which had once belonged to Sir Thomas More, and was at one time known as the Sand Hills. This Park was sold by Blake to the Earl of Middlesex in 1620.

When the ferry changed hands is not quite certain, but in 1695 it belonged to one Bartholomew Nutt, of whom, however, nothing more is known than that he was the proprietor at that date. The ferry appears to have been rated in the parish books in 1710 at 8*l.* per annum. It afterwards came into the possession of Sir Walter St. John, who owned the Manor of Battersea and other estates in Surrey. He died in 1708, and the ferry, with the rest of the property, went to his son Henry, who died in 1742 and left it to his son, Henry, the famous Viscount Bolingbroke, who died childless in 1751, bequeathing his estates to his nephew Frederick. In 1762, the nephew obtained an Act of Parliament under which he sold the manorial property to the trustees of John, Earl of Spencer. In 1766 Earl Spencer obtained an Act of Parliament which empowered him to build the present bridge at his own expense at the ferry, and to secure land for the approaches. The tolls named in the Act are one half-penny for foot passengers, as at the present time, and 4*d.* for a cart with one horse, or double the toll now charged. The framers of the Act appear to have contemplated the possibility of the bridge being only a fragile structure, as special powers are granted to the Earl to sue watermen injuring it by boat or vessel. Provision is also made on behalf of the public by a clause which enacts that in the event of a tempest or unforeseen accident rendering the bridge "dangerous or impracticable," the Earl shall provide a convenient ferry, charging the same tolls as on the bridge. The bridge, however, was not constructed until several years after the Act of Parliament had been obtained, and between the years 1765 and 1771 it is on record that the ferry produced an average rental of 42*l.* per annum. In the latter year Earl Spencer associated with himself 17 gentlemen, each of whom was to pay 100*l.* as a consideration for the 15th share in the ferry, and all the advantages conferred on the Earl by the Act of 1766. They were also made responsible for a further payment of 900*l.* each towards the construction of a bridge. A contract was entered into with Messrs. Phillips & Holland to build the bridge for 10,500*l.* The works were at once commenced, and by the end of 1771 it was opened for foot passengers, and in the following year it was available for carriage traffic. Money had to be laid out in the formation of approach roads, so that at the end of 1773 the total amount expended was 15,662*l.*

For many years the proprietors only realised a small return upon their capital, repairs and improvements absorbing nearly all their receipts. In the severe winter of 1795 considerable damage was done to the bridge by reason of the accumulated ice becoming attached to the piles, and drawing them on the rise of the tide, and in the last three years of the eighteenth century no dividends were distributed. In 1799 one side of the bridge was lighted with oil lamps, and it was the only wooden bridge across the Thames which at that time possessed such accommodation. In 1821 the dangerous wooden railing was replaced by the present iron handrail, and in 1824 the bridge was lighted with gas, the pipes being brought over from Chelsea, although Battersea remained unlighted by gas for several years afterwards. Further structural improvements were made from time to time, one of which consisted of laying the bridge with a flooring of cast-iron plates on which the metalling of the roadway rests. At various times, too, the proprietors have expended considerable sums of money in making a road on Wandsworth Common, and, in conjunction with Battersea parish, in improving ways of approach to the bridge. The proprietors, moreover, have often expressed their willingness to contribute towards some alteration of the water-way of the bridge for the benefit of the public, such as is now about to be done. In this, however, it was but reasonable that they should expect to be joined by the Conservators of the Thames, or others interested in the improvement. This expectation not being realised they declined to bear the whole cost. Until the year 1873 the bridge remained in the hands of the descendants or friends of the original proprietors. In that year, however, the bridge came into the possession of the Albert Bridge Company, under their Act of Incorporation, and it is by this company that the present improvements are being carried out, the same being made obligatory by that Act.

The bridge consists of 19 spans or openings, of widths varying from 31 ft. in the centre to 16 ft. at the ends, the piers being formed of groups of timber piles. There is a clear headway of 15 ft. under the centre span at Trinity high water. The extreme length of the bridge is 726 ft., and its width 24 ft., including the two pathways. The bridge does not cross the river in a direct line, but is built upon a slight curve in plan—the convexity being on the upper or western side. The roadway has a rise of 1 in 34 from abutment to centre on the Chelsea side, and 1 in 32 between the same points on the Battersea side. The alterations now in course of being carried out from the plans of Mr. R. M. Ordish, the engineer to the Albert Bridge Company, comprise the widening of the water-way of the bridge at the centre, and at a point near the northern or Chelsea end. The central opening will be 75 ft. wide and will have the same headway as at present. To effect this improvement one pier will be removed and two spans thus thrown into one. The present roadway of the bridge will not be disturbed, as the timber longitudinal road bearers will be borne upon a series of wrought-iron cross-girders, and carried at either ends by a timber and iron trussed framing 90 ft. long and 12 feet deep. These trusses will be placed one on either side of the bridge outside the present handrail, and each of their ends will be supported on a pier, composed of three piles formed of 14-in. timber, braced in and having a wrought-iron cap, whereon the ends of the trusses will rest. Each pair of piers thus formed will be connected by timbers 14 in. by 7 in., which will constitute the diagonal vertical bracing. The piles will be surrounded at their footings by concrete, to insure the stability of the piers, which will be carried up to the level of low water. There are seven wrought-iron cross girders to each opening, 1 ft. 11 in. deep at centre, and placed 11 ft. 3 in. apart. The side opening will be made in a similar manner to that at the centre, but it will only have a span of 70 ft. It is expected that the work will be completed by the contractors, Messrs. Kirk & Co., of Woolwich, by February next. The bridge will then not only present increased facilities for river traffic, but will be a stronger structure than it now is, by reason of the works we have described as well as on account of others of a minor character which are in course of being carried out.

THE AMERICAN INTERNATIONAL EXHIBITION.

THE Hon. A. T. Goshen, the Director-General of the Exposition, has just transmitted to the President a report upon the progress of the work, in which he describes it in detail. The Commissioners of Fairmount Park, Philadelphia, have set apart for the uses of the Exposition 450 acres of land, eligibly situated and well adapted for the purpose. The Exhibition buildings have been located, much of the grading completed, and the general arrangement of the grounds adopted. Railway communications directly to the grounds, from all parts of the country, have been established, affording facilities for the conveyance of visitors and goods. It has been found necessary to change the plans for the main Exhibition building, in order that the cost of construction might be brought within the means at the command of the Centennial Commission, and the buildings now being erected, while answering the demands of the Exhibition in all important particulars, will cost much less than the original estimate. Construction began in July last, and the progress made ensures timely completion on a scale and in a manner answering the requirements of the Exhibition. The grading and foundations for the main building are completed, and the placing of the superstructure, which is now being prepared, will begin early in the spring of 1875. The Art Gallery and Memorial Hall, for which the State of Pennsylvania and the city of Philadelphia have made liberal and sufficient appropriations, are in process of construction, the work being far advanced. This and the main building will be in readiness several months before the opening in April, 1876. The plans for auxiliary buildings—the machinery hall, agricultural hall, and horticultural hall—have been adopted, and contracts for their erection will this month be made. The buildings contemplated cover a space exceeding 40 acres, with facilities for increasing their capacity as demand may require. Applications for space in the American department have been numerous made; great interest has been shown in the matter throughout the country, and it is evident that the industries of the United States will be fully represented, and in a manner reflecting credit upon them. Several State Governments are making arrange-

ments for complete exhibitions of the resources of their respective States ; and a Board has been appointed by the President, representing the various departments of the General Government, for the purpose of preparing a collective exhibition illustrating the functions of the Federal Government. This is expected to be an interesting and instructive feature.

Down to the close of November the various foreign nations which had signified their intention of participating in the Exhibition were Belgium, Brazil, Chili, the Argentine Confederation, Ecuador, Germany, Guatemala, San Salvador, Hayti, Japan, Liberia, Mexico, Peru, Sandwich Islands, Spain, the Netherlands, France, Venezuela, Sweden and Norway, Algeria, the United States of Colombia, Nicaragua, and Honduras. Ten of these Governments have appointed commissioners to care for their interest, and several have made liberal appropriations to cover the expense of their representation. The Director-General says he is also unofficially advised of extensive preparations being made in Austria, Great Britain, Australia, and the Dominion of Canada for a large display of their industries. The display of the resources of the entire American Continent will be very comprehensive and instructive. The interest manifested in the Exhibition in European and Oriental countries, he continues, gives abundant assurance that the representation of the leading nations of the world will be unusually large. The arrangements for the reception and accommodation of foreign articles are being made on a scale that will answer all demands which can be reasonably anticipated. He concludes with the statement that the Centennial Commission are confident that the great national undertaking committed to their care "will be crowned in 1876 with a success that will be creditable to the Government. The Commission have realised from the beginning that the honour of the nation is involved in the enterprise, and the aim, therefore, has been to render it eminently the great illustrative feature of the celebration, representing fully the political and industrial growth of the country during the century."

The apportionment of the space in the main Exhibition building among the various nations to be represented has now been made, the plan adopted being that of the Paris Exposition of 1867. The main building has 485,090 square feet of available space, and this is divided as follows:—Siam, 8,946 square feet; Persia, Egypt, and Turkey, each 7,776; Russia, 10,044; Sweden and Norway, 10,044; Austria, 23,328; the German Empire, 27,264; Denmark and the Netherlands, 7,776; Switzerland, 6,156; Italy, 11,664; Spain and her colonies, 15,552; France, Algeria, and other colonies, 27,264; Great Britain, Canada, India, Australia, and other British colonies, 46,748; the United States, 123,160; Mexico, 11,664; Honduras, 3,888; Guatemala and Venezuela, each 5,508; San Salvador and Nicaragua, each 4,536; Ecuador, Hayti, and the Sandwich Islands, each 3,888; the United States of Colombia, 7,776; Peru, 11,664; Chili, 9,744; Brazil, 17,529; the Argentine Republic, 15,552; Liberia, 2,268; Japan and China, each 7,290 square feet. Thirty-four nations and their colonies are thus provided for, and there is a space of 21,408 square feet reserved for contingencies. Although it is yet nearly 17 months to the opening of the Exhibition, there are already applications from American exhibitors for 180,000 square feet, although the space allotted to their country is but 123,160 square feet. The applications for space in the portion allotted to other nations go directly to the commissioners appointed by those nations, so that the officials have no direct knowledge of the amount asked for. The German Empire has already had for its space 700 applications made, as is learnt from authentic private sources. Fairmount Park, where the construction of the Exhibition buildings is going on, under the direction of Richard J. Dobbins, the general contractor for the work, has for several months been a busy hive of industry.

THE STRENGTH OF STONE.

VERY few experiments having claims to be considered as precise or delicate have been made in this country on the strengths of building stones, although there can be no doubt as to the interest of the subject both to theoretical and practical men. It is true that with ordinary supervision stones are seldom or never placed in positions where their loads are likely to lead to fracture, but still it would be often satisfactory to be able to estimate what margin there is of safety, and it is probable that there may be a ratio in many varieties between the endurance of a stone under an immediate crushing force and its endurance of the wear and tear of time in a building. The scarcity of experiments hitherto makes those the more remarkable which have been undertaken by Major General Gilmore, of the United States Army, and the details of which have been embodied in a Government report lately presented. In this case a great variety of stones were tested to discover their resistance to crushing force, and every care seems to have been adopted to obtain trustworthy results.

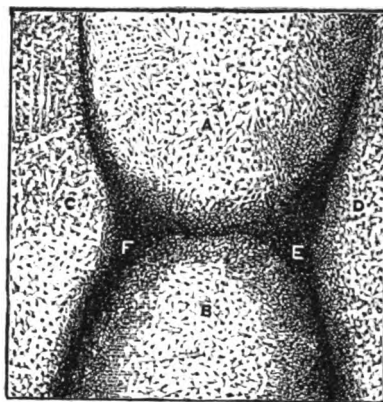
The majority of the stones used in the experiments were delivered from the quarries in cubes measuring two inches on each face, and generally speaking they were true in form.

To distribute the pressure more evenly over the whole surface of the stone, each cube was placed between two cushions of soft pine wood, measuring 2 inches by 2 inches by $\frac{1}{2}$ inch. This arrangement also caused the pressure to act more gradually. The wooden cushions, becoming much indurated by the effects of the pressure, to some extent took the place of mortar, which would be used in actual building. For iron and wood, Hodgkinson recommends that trial specimens should be at least $1\frac{1}{2}$ times as high as the width of bed; but as stone, except when used in columns, is always made of less height than bed, the cubical form of specimens adopted for the experiments was supposed to afford sufficient security against angular breakage. The apparatus used for testing was a hydrostatic press, known as the Hoe press.

Considering the infinitely varied composition and character of all kinds of rock, says General Gilmore, it may be said that no material is less calculated to permit the establishment of special laws by a general form of breakage. It may be safely assumed, however, that more numerous and extended experiments, carefully and patiently conducted, will ultimately lead to the development of certain general laws relating to the behaviour

of stones under pressure, a knowledge of which will be most useful to the engineer and builder.

Homogeneous stones seem, in most cases, to break in the following manner (see diagram):—



The forms of fragments A and B are approximately either conical or pyramidal, according as the stone is friable and of obviously granular structure, like sandstone and a few kinds of marble and granite, or compact, such as the true limestones and most marbles and granites. The more or less disk-shaped pieces, C and D, are detached from the sides of the cube with a sort of explosion, flying off in a more or less intact condition. In E and F, the stone is generally found crushed, and ground to powder by the attrition of the larger fragments. Of course this general result, or law, is modified by the nature and quality of the "grain" in the stone, and those other causes of irregularity which leave no two cubes of the same strength and condition, although they may have been cut directly apart from each other.

This form of breakage occurs also in non-homogeneous stones broken "on bed;" but it must be remembered that here the modification must be taken into account which "grain" produces as against homogeneity, rendering the object liable to split in rectangular fragments. This frequently lengthens the cone or pyramid in stones "on bed," and causes those set "on edge" to actually split in rectangular disks; the style of splitting being, of course, irregularly modified for different specimens. Sand-cracks, &c., in stones, have also their influence in directing the pressure, and even the difficulty of determining the "bed" in some stones, after being cut, may be a source of errors.

The two strangest cases of abnormal breakage occurred in the United States Quarry limestone, the first of which, "on bed," threw off a couple of thin fragments, and then exploded, the balance of the stone being scattered about in minute particles. The second, "on edge," broke into wedge-shaped disks of moderate size.

The Du Luth, dark granite, split "on bed" into two disks nearly equal in size, which were forced a $\frac{1}{2}$ inch apart, though pressed at right angles to their line of motion by a force of 68,000 lbs. The second specimen "on edge," acted in precisely the same manner. A very curious result of this experiment was the fact that the pine cushion blocks, which usually stand a pressure of 80,000 or 90,000 lbs., and become indented but comparatively not torn or injured, were in this case spread over the pieces A and B as though the wood had been crushed to fibre in liquid resin and painted over with a brush, part of it coming down in rough festoon between the separated parts of the stone.

But notwithstanding the diversity of phenomena attending the breakage of stones by direct compression, the obvious difference between the fragments produced by that operation and those fragments obtained by the stonecutter's hammer is suggestive of laws, modified but always existing, and capable of being, at least, roughly classified.



St. Stephen's Church, Twickenham.

SIR,—With reference to the competition for this church, and Mr. Edis's letter in your paper of last week, kindly allow me a few words in reply.

Mr. Edis may, and I think has, reason to complain of the action of the committee, but I cannot admit that he has any right to take me to task because those to whom it was addressed consider my report as "private and confidential," and decline to make it public. I regret this decision of the committee as much as Mr. Edis, but I conceive that it was quite within their power so to determine, and not, therefore, within mine to take upon myself to publish the report in the face of that decision. I think it is to be regretted that the competing architects, when they stipulated that their designs should be submitted to a professional man for examination, did not also require that his report should be made public; but, not having done so, I fear they must necessarily submit to the decision of the committee.

I am, Sir, yours faithfully,

December 30, 1874.

EWAN CHRISTIAN.

Vaulting.

SIR.—In answer to the concluding paragraph of Mr. Statham's letter in your last issue, I may say that, from what I know of Greek work in Athens, I imagine the Greeks would have done very much the same as the mediæval builders. They would have deemed it necessary that the ribs should have an equal footing on the abacus, and would have seen no objection to the introduction of a double curve in the diagonal ribs (provided it were so subtle as to elude observation) if necessary for constructional purposes. I did not intend to convey to Mr. Statham or to your readers that the vault he designed and illustrated in your paper was five and a half centuries old. I was referring only to the chief principle in it, which I understood Mr. Statham to put forth as a novel solution of the problem—viz., the equality of curves in all the ribs. Without any wish to depreciate the other points in Mr. Statham's design, I feel sure that the thirteenth and fourteenth century builders would not have deemed it necessary that all the ribs of a vault should start at equal angles with one another; if anything, they would have preferred the contrary. I doubt if they would have introduced an intermediate rib to support a transverse rib, which, being already curved, requires no support, and I am certain they would never have detached a wall rib from the wall and dispensed with the latter. My chief objection to Mr. Statham's first letter was the use of the word "fudge," which might mean to accomplish in a corrupt and underhand manner what I contend, in the case of the double curve (unobserved except looked for), was perfectly justifiable, artistically and scientifically.—Your obedient servant,

R. PHENÉ SPIERS.

Mediæval Architects.

SIR.—Will you allow me to contribute my mite to the discussion raised by Mr. White's able paper? Having for several years past been engaged in gathering materials for a general history of art in the Low Countries down to the end of the sixteenth century, I have got together a considerable amount of documentary evidence as to how public buildings were erected in old times, and have learnt that a great deal of what I, in common with most people, believed to be facts are really historical errors. *Inter alia*, I find that all, or very nearly all, public buildings were built by contract, and generally by the contractor whose tender was the lowest; that tenders differed formerly in amount just as much as now; that master masons were occasionally invited to send in competition drawings, and that competitions sometimes ended in litigation. But the points to which I wish to draw attention now are:—

First of all, the general state of knowledge among the people, as distinguished from the nobility and clergy, during the period that mediæval art flourished. I believe that in the thirteenth century a larger percentage of the people could read and write than either in the seventeenth or eighteenth, perhaps even than in the present. Certainly all the master masons and master carpenters in the thirteenth, fourteenth, and fifteenth centuries could read and write, and were far better instructed not only in what concerned their own craft, but also in general knowledge, than the same class has been at any time since. Probably the majority of master masons in the thirteenth and fourteenth centuries understood Latin moderately well.

Secondly, it is certain that all buildings in the Low Countries erected before 1680 were designed and carried out under the direction either of a working master carpenter or master mason; by the former in the low lands, at least in the earlier portion of this period; by the latter in the rest of the country. In the earlier times these master workmen were monks, in the latter laymen; but certainly in neither case "soft-handed," for the monks were, in those times at least, busy workers. There may have been by exception a few "soft-handed architects" during the sixteenth century. I have myself only met with record of one—Launcelot Blondeel, of Poperinghe, in his youth a working mason, but who abandoned the trowel for the painter's brush, went to Italy, and on his return settled in Bruges. He made sketches for new buildings, some in flamboyant Gothic, others in Renaissance, and his sketches were on several occasions adopted; but the plans and elevations, with necessary alterations, were in each case made by a master mason before the works were commenced.

Thirdly, it is certain that those who worked under the master workman, author of the design, were men of equal, or scarcely inferior knowledge.

The similarity of form and of details in the principal buildings erected during the latter part of the twelfth and early part of the thirteenth century does not prove that they were the work of a very few men, but merely that those who erected them followed a common tradition. After the formation and organisation of secular guilds greater variety of plan and detail prevailed than before, but even as late as the fifteenth century there was far more intercourse between craftsmen of different countries than is generally supposed. The separatist tendencies that prevailed afterwards of course both diminished international intercourse and increased the divergences of style in different countries.

The position of the modern architect is certainly very different from that of the mediæval master workman. In England he is frequently a man of more culture, often, I doubt whether it would be true to say generally, of equal practical knowledge. Here in Belgium he is generally a man of less culture, and almost universally of less practical knowledge. In both countries the hope of architecture, to my mind, lies in the technical training, the greater practical instruction of the architect, the higher, both general and special, instruction of the workman, and a more intimate communication between architects and workmen.

Your obedient servant,

Ter Baille, Bruges, Dec. 23.

W. H. JAMES WEALE.

New Shoreham Church.

SIR.—In his letter of last week, Mr. E. B. Ferrey raises some interesting questions, on which, by referring to my report of 1865, I am able to throw some light.

He is struck with the "Early French" look which the chancel has. This is to be explained by its history, for it belonged to the French Abbey of St. Florentius, at Saumur, in Anjou, through the mother church of

St. Nicolas, Old Shoreham, which, with Beeding and Bramber Churches, and that of St. Peter, *de vetere ponte* (not now in existence), were given to the Abbey by William de Braose, the Lord of Bramber, in the 10th year of William I. The Abbot commenced St. Mary, New Shoreham, for parochial use as a chapel attached by St. Nicolas, and he formed Beeding into an Alien Priory as the head of his English possessions. The present chancel has taken the place of the earlier and smaller one, as is clearly explained by Mr. Sharpe, and it was used, perhaps, by the Priory of Carmelites, founded by Sir John de Moubay, Knight. There are some foundations existing on the south side of the destroyed nave, possibly these are remains of the priory buildings, which, it is recorded, were destroyed by the sea and a tempest about the time when Waynflete annexed the priory to Magdalen College, Oxford, its present possessors.

Any one who sees the town of Shoreham now, would hardly credit the fact that in Edward III.'s time it furnished twenty-six ships for the invasion of France, while London could only find twenty-five. The then importance of the town explains the size of the church. The town decayed in the fifteenth century, through the silting up of the harbour mouth, and the deviation of the outlet of the river to Kingston. When the church was commenced, this growth of the town was not anticipated, and the original design of the nave was therefore changed to a much richer and grander Norman style than the tower and chancel. The rebuilding of the chancel itself followed, 1170-75, probably by the munificence of William de Braose, the benefactor of Abergavenny Church, and Lira, in Normandy. The differences and change in detail are evidence of its slow progress, due to the fact that, as belonging to a French monastery, it was liable to confiscation if a war with France broke out.

Mr. Ferrey's queries about the windows in the lower wall arcade, under the eastern triplet, are not easy to answer conclusively. There is now but one, and that is in the central arch. The other two arches are filled in with flint walling (now covered with cement), and there are not, nor were, any indications whatever of former windows in them, such as are shown in Pugin's drawing referred to by Mr. Ferrey. I had to-day, from Canon Woodard, an account of a conversation between him and my father, when in 1846-7, he and the then vicar were interesting themselves in the projected restoration. My father's opinion on this then vexed question was against the accuracy of Pugin's drawing, and he quoted as an example of the antiquity of the one window treatment, an example of a certain church in Essex, the name of which Canon Woodard does not now remember (perhaps some of your readers may know of it). My own opinion has been as my father's was; the flintwork is of the same character as the undoubted ancient work, and not like the known-to-be modern flintwork in and below the chancel parapets.

Pugin draws the two east windows of the chancel aisles like the old one (now scraped) on the north side; but the northern one is a simpler one, and like the central window, while the southern one has a two-light pointed window on the outside. So, though I have the profoundest respect for Pugin's most valuable drawings, I do not think he was always quite correct. So also of his, as I believe, conjectural restoration of the wheel window, I do not think it existed in his time. With Mr. Ferrey's remarks on the modern tracery in it, I quite concur.

There was, in 1829, a sort of restoration carried out in cutting down the pews to the more moderate height of about 4 feet 6 inches, and it was then that a modern altar-tomb was turned into the present stone altar; but it does not appear that any structural works were then carried out.

Mr. Sharpe's drawing is not correct as regards the wheel window and aisle windows, though he shows only one window below the triplet.

I may, perhaps, add to these somewhat lengthy remarks, that with reference to the present "restoration," I heard to-day with pleasure that many Shoreham people, and others, have protested against it. Mr. Jarvis, in his letter, expressed surprise at the general apathy which he supposed existed on the subject; he will therefore be glad to hear this, and that a strong adverse opinion has been expressed in influential quarters; but, I regret to say, I saw to-day fresh scaffolding put up to one of the north clerestory windows.

Your obedient servant,

R. HERBERT CARPENTER.

4 Carlton Chambers, 4 Regent Street,
Dec. 30, 1874.

LEGAL.

Court of Queen's Bench.—December 19.

Before Mr. JUSTICE LUSH.

BAXTER v. BULL AND OTHERS.

This was an action brought against the contractors for the new Law Courts for false imprisonment and wrongful dismissal.

Mr. Edward Clarke appeared for the plaintiff; Mr. Cole, Q.C., and Mr. Pindar for the defendants.

The plaintiff stated that in March last he was engaged by the defendants to act as timekeeper and to have a general surveillance over the men at the new Law Court buildings; that shortly after his engagement one Wright was appointed timekeeper, and that he, the plaintiff, was told to discontinue acting as timekeeper, but still to exercise a surveillance over the men; that on Monday, April 13, he went to the works in the morning, and that Wright told him he was discharged, and, as he refused to leave the works, he gave him into the custody of a policeman, and charged him at Bow Street with trespass.

His LORDSHIP nonsuited the plaintiff on the ground that he had not shown that it was within the scope of Wright's authority to do the act complained of, and upon the count for wrongful dismissal because the contract proved was very different from that declared upon.

BAXTER v. WRIGHT.

This was an action for false imprisonment brought by the plaintiff in the preceding action against Wright, the timekeeper. The defendant's case was that there had been some altercation between Baxter and one of the men, and that Baxter was discharged. On the Monday morning following, Baxter came to the works and refused to leave. A policeman was sent for, and they went to Bow Street, where the superintendent told Baxter that he thought it would be advisable for him to leave the ground. No charge was made.

Before the defendant's case was finished, the jury said that they were satisfied. Verdict for the defendant.

His LORDSHIP said that they were two most vexatious actions, and ought never to have been brought.

Court of Exchequer.—Dec. 19.

(Sittings at Nisi Prius, at Guildhall, before Baron Pollock and Common Juries.)

THEOBALD V. GRAVE.

This was an action to recover the balance of an account for services rendered. The defendant pleaded never indebted and payment.

Mr. Willis and Mr. Glynn appeared for the plaintiff; Mr. Theaiger, Q.C., and Mr. Wells for the defendant.

The plaintiff is an architect and surveyor at Bedford Row, and the defendant is a lady of independent means, residing at Lee, near Blackheath. In the Spring of 1872 the defendant was being sued by an architect for services rendered, and, according to the plaintiff's case, she engaged him to survey the work done by that architect with a view to defending the action. The plaintiff's charges amounted altogether to 50*l.*, but he had been paid 1*l.* on account.

The defense was that the plaintiff had offered to act as a friend in the matter, and that having, to the surprise of the defendant, sent in a charge for his services, he had agreed to accept 1*l.* in full of all demands, which sum had been paid him in full discharge of his claim against the defendant.

When the case had proceeded some way, the jury announced that they had made up their minds to find a verdict for the defendant.

Verdict for the defendant.

NEW BUILDINGS AND RESTORATIONS.

Thornton-le-dale Schools, Yorkshire.—A new school is approaching completion in this village. It has been erected by Mr. J. R. Hill, and consists of school-room, 70 by 20; class-room, 24 by 16; boys' and girls' entrances, yards, and out-offices. The rooms are open to the ridge, all the framed principals and purlins being dressed and stained. The architects are Messrs. Gibson & Son, Malton, under whose superintendence the work has been executed by local workmen.

Billington Schools, E. R. Yorkshire.—This School Board is about to erect a new school, having secured a most eligible site in the centre of the village. It will consist of school-room, 45 by 20; class-room, 22 by 16; with separate entrances, yards, and out-offices. The design, which is to be carried out in common grey bricks, with red stocks for the arches, strings, plinths, chimney shafts, &c., and slated roofs, has been prepared by Messrs. John Gibson & Son, architects, Malton, under whose superintendence it will be erected.

Leeds Board Schools.—New schools have recently been opened at Saville Green—also at Burly Road. The Saville Green Schools are the largest, and accommodate 1,035 children. Two junior departments occupy the main block, and the boys and the girls are placed in detached buildings on either side of the front. Mr. Geo. Corson was the architect for those in Saville Green, and Messrs. Henman & Harrison for those in Burly Road. The schools are fitted with Moss's patent School Board desks, and the warming and ventilating by Messrs. Shillito and Shorlands patent Manchester school grate.

Workingham Church.—This church has been re-opened after restoration, which was carried out at the cost of Sir Charles Clarke, Bart. The old roof has been removed, and an open one of pitched pine substituted. The chancel has been raised one step, re-seated with oak benches for the choir and clergy, and re-paved with ornamental tiles, and a chancel arch has been constructed. Within the Communion rails the floor has been raised two steps, and laid with ornamental tiles. A reredos of encaustic tiles and mosaic has been presented by Mr. L. Harrison, and an organ, built by Messrs. Walker, is the gift of Mr. R. Harrison. The works were carried out under the direction of Mr. A. W. Blomfield, M.A.

New Bank, York.—The new premises of the York City and County Bank have been completed. The new bank will be approached through the present entrance in Parliament Street, from which a vestibule, having glass doors, will lead into the bank, which measures 37 feet by 18 feet. The bank has a semicircular ceiling, 28 feet high from the floor, in the centre of which is a flat dome 18 feet in diameter; at the apex of the dome is a circular skylight 9 feet in diameter, and 35 feet from floor to glass. The ceiling of this part is of plaster, panelled and moulded. The walls and columns are in Parian cement, painted; wooden panels, painted in dark purple, are fixed all round the bank. The floor of the entrance vestibule and space for the public are laid in tiles, manufactured in Antwerp. On the opposite side of the bank, and having a frontage towards Market Street, is a spacious manager's room, approached both from the bank office and by folding doors from the bank itself. Connected with the directors' board-room and the manager's house, on the ground floor, is also a room for the porter, fitted with a lift from the cellars to the kitchens, on the upper floor, which kitchens, together with the scullery, and two stories of bedrooms, have been added to the manager's residence. Below, there is ample strong room accommodation, which is connected with the bank by hydraulic lifts. The contractors for the brickwork and masonry were Messrs. Weatherley & Rymer, and for the carpenters' and joiners' work Messrs. J. P. & W. Harrison. The architects were Messrs. Atkinson, of York.

General

M. Emile Ollivier, the ex-Minister of Napoleon III., it is said, is preparing a work on the Sistine Chapel.

The Emperor of Germany has presented his portrait, life-size, to King Victor Emmanuel as a Christmas gift. It was painted by Karl Arnold, and represents the Emperor as standing before a chair of state in general's uniform, with the riband, chain, and star of the Italian Order of the Annunziata.

Mr. Thomas North proposes to publish by subscription a work on the Church Bells of Leicestershire, with their inscriptions, traditions, and peculiar uses. It will be published by Mr. Clarke, of Leicester.

Mr. E. Benyon, M.P., has rebuilt the parish Church of Cranham, Essex, at a cost of about 6,000*l.* This is the eighth church rebuilt or restored at Mr. Benyon's expense.

A suggestion for the adoption of a Government stamp of identification for the purpose of protecting the public and artists against fraud has been submitted for consideration to the various governments interested in art. The plan is for the artist on presenting his work for stamping to give in title and description, and then to receive a certificate bearing stamp and number corresponding with that affixed to the painting, which, being held by him and subsequent owners, would serve as a perpetual voucher.

A prize of Twenty-five Guineas is offered by Dr. Lory Marsh, of Adelphi Terrace, for the best essay on the following subject:—"The application of Sanitary Science to Rural Districts with a view to insure the highest condition of Health and the Prevention of Disease."

The Sites chosen for the statues to be erected in Edinburgh of Dr. Livingstone and Sir James Simpson are St. Andrew's-square and Princess Street.

The Catalogues of the Louvre galleries have been reduced one-third in price during the past month.

A Mosaic Portrait of Pope Pius IX. has been placed in St. Peter's, over the well-known bronze statue of the Saint, and was uncovered on Christmas Eve.

The *Diritto* says the Pope has taken up a project which he formed many years ago of placing twelve statues round the cupola of St. Peter's, in accordance with the idea of Michael Angelo. Twelve sculptors are to be charged each with the execution of a statue, but they are not to be chosen by public competition; nor will any artist be eligible for the work who has not domiciled in Rome prior to 1870.

The Kensington Poor Law Guardians, it appears, hire out some of the paupers to artists as models at the rate of one shilling an hour.

The Saw Mills of Messrs. Driver, Jennings & Cupper, Southampton, have been destroyed by fire, together with some adjoining cottages. The damage is estimated at 50,000*l.*

An Appeal is to be made to the diocese of Ely, and the country generally, for subscriptions to rebuild the north-west transept of Ely Cathedral, at a cost, as estimated by Sir Gilbert Scott, B.A., of 28,000*l.*

The Tay Bridge Works have been suspended in consequence of the frost. Owing to a difficulty of finding a solid foundation in the centre of the river a change in the plans with regard to a number of the piers is contemplated, involving a combined system of iron cofferdams, piling, and concrete. The piers will also be made larger, and the number of them reduced.

The Contract for the erection of the barracks for the depot centre of Worcester has been secured by Mr. J. H. Clark, of Warwick. The buildings are expected to be completed in about two years.

Folkestone Harbour is to be improved by extending the "Horn," so as to form a barrier to the progress of the beach to the eastward. The Victoria Pier is also to be extended in a south-easterly direction for 100 yards.

A Club Building is now being erected in Stockton from the designs of Messrs. Moses & Wetherill.

A Reredos has been presented to Trinity Church, Margate, by an anonymous donor. It was carved by Mr. Forsyth from the designs of Mr. Blackburne.

Bramham Church, near Leeds, has been partially destroyed by a fire caused by the heating apparatus. The lower end was totally destroyed, and the bells fell during the conflagration.

It is intended to commence forthwith the erection of the Pendlebury Orphanage in the neighbourhood of Stockport, for the endowment of which Sir Ralph Pendlebury left 100,000*l.* in 1861. Since then the bequest has been the subject of litigation.

The Wages paid in the building trades in Victoria, according to the latest accounts, were: Plasterers, bricklayers, and carpenters, 10*s.* a day, the day's work being eight hours; labourers, 7*s.* The building trades are in full work. Cabinetmakers from 4*l.* down to 2*l.* a week; less in the country.

The Expenditure on public works in Ceylon is estimated at 277,687*l.* This includes sums for breakwater outlay and for improvements of the Customs' premises, in order to meet the growing requirements of the port; 3,000*l.* is taken for the completion of the public museum, now nearly completed. New roads through planting and plumbago districts are provided for, as well as 25,000*l.* for irrigation purposes.

The *Liberté* states that the United States and Nicaragua have agreed on the construction of a canal through the Isthmus of Panama. Mr. O'Sullivan, an American, and Colonel Kodolitoek, a distinguished Austrian officer, are about to present their surveys and estimates to the Commission appointed by President Grant, whose report will be presented to Congress next session, when a decision will be arrived at as to the best route. The proposal is to canalise the river San Juan, and thus by seven sluices reach the Lake of Nicaragua, whence a cutting with ten sluices will reach the Pacific.

Competitions Decided.

The designs by Mr. Sidney R. Stevenson, of Nottingham, have been selected for the Grammar Schools at Wallingford, Berks. Three sets were selected by the governors of the school out of twenty-three which were sent in for competition, many of which were from London firms. The governors, however, decided to submit the choice to Mr. Hawkins, the consulting architect of the Education Department, who gave the award to Mr. Stevenson.

The Architect.

THE ARCHITECTS' BENEVOLENT SOCIETY.



THIS particular season of the year it may reasonably be expected of us that a good word should be said in favour of any charitable institution which belongs to the architectural profession; and what we may have to say for the *Architects' Benevolent Society* will, we are sure, be considered all the more deserving of the attention of our readers when we observe preliminarily that no solicitation whatever has been addressed to us by the managers of the fund for such an act of consideration.

It is well known with regard to even the most prosperous members of the architectural profession, with but few exceptions, that they are by no means wealthy men. A considerable proportion of those whose business transactions are often comparatively little known, either to each other or to the public at large, are no doubt sufficiently well off to rank amongst the moderately comfortable classes of the community; but to suppose that the generality of men of higher repute in this profession are as well paid as their compeers in others, such as the law and medicine—to say nothing of mercantile and manufacturing business, or of the indefinite variety of engineering practice and building, would be a great mistake. To make one's fortune, as the phrase goes, by that which is properly the work of an architect, is wholly out of the question; most of our very best men have to die in harness; and if occasionally we fall in with a once popular architect who can afford to go gently down the vale of old age in retirement, he is generally a childless man whose wants are few.

On the other hand, those orders of men in the profession who never attain to what is considered a good position, that is to say, those whose destiny it is to be below the point of average prosperity, find that average to be certainly less satisfying to the purse than to the sense of respectability. With them virtue is emphatically its own reward; and it is well known to be frequently a matter of wonder with those who have even moderately prospered to consider what has become of one and another of their early companions, whose prospects were equal to their own, but whose success has been very different. The numbers of such men, often highly educated and accomplished, who seem to have settled away from their brethren, and either subsided into lower strata of business or passed entirely out of the professional field, are almost alarming; and indeed, when the cry is raised, as it often is in this profession as in others, that the supply of practitioners is in excess of the demand, it is this that appears to furnish the only intelligible answer.

But there are still inferior, still less successful classes of so-called architects. Just as in the church there are certain of the clergy who never rise, and never hope to rise above the rank of curates, and to whom a full-fledged incumbent appears a being of superior race, so in the practice of such a profession as architecture there are men who occupy the humble position of clerks or assistants all their days. What becomes of these persons in old age no one seems able to tell. Not unfrequently they are men who have not only been regularly articulated in their youth, but have long and faithfully served in offices of the highest class, and have actually been the unknown workers whose work has brought their employers to the highest distinction. Designers of the best, practical men of the best, men of business the most trustworthy, they have plodded on year after year, punctual to arrive in the morning, slow to leave at night, taking their fortnight's holiday in autumn and their three days at Christmas, and remaining content, or as nearly content as possible, with the salary of a clerk, still hoping for one kind or another of ultimate emancipation, until grey hair and spectacles have at length surprised them at the desk of a master, and it is hopeless to think any more of acquiring even the humblest desk of their own. What becomes of these men is indeed a question to be asked. And there are still inferior orders of office workers, whose position is the same except that their merits are less, and of whom it might perhaps be tedious to go on to speak at length. There are also those who are more or less the outsiders of the profession—the surveying clerks, the writing clerks, the tracing clerks, and so on, of the larger offices; and there are not a few standing clerks of works who may also claim to be entitled to cling to the skirts of their masters, and to swim in some small measure by their help when it becomes a case of extremity.

Now let it be said in one word that architects do not, as a rule of even the most limited application, either club together to support old friends or individually pension off old servants. In truth they cannot afford it; and, if proof of this were wanted, it would be enough to remark that in the subscription lists of popular charities, and in the advertised columns of contributors for the relief of special distresses, the names of even our most prosperous architects very seldom if at all appear. The Royal Institute itself is at this moment obliged to

set on foot an almost painful inquiry into the question of ways and means, and its best friends are fain to satisfy themselves with the reflection that the respectability of the guild is at least maintained at the sacrifice of what might otherwise be a full purse.

In the face of all we have said, it seems to us to be a signal honour to the profession of architects when we mention the fact, as we believe it to be, that the number of persons, widows and daughters included, who are found to claim charitable aid on account of their connection with architectural business, is by no means large—let us say it is small. Most of our readers may be aware that the late Sir JOHN SOANE left behind him, amongst other benefactions to his profession, a fund for the relief of such indigence. That well-known institution *The Artists' Benevolent Fund* is also open to the applications of those whose association with artistic architecture can be reasonably maintained. No doubt these sources supply a considerable amount of relief to the particular class in question. But at the same time it seems clear enough that the former of these funds cannot be relied upon to expand with that expansion of architectural practice which is so much a characteristic of the present day, and which must of necessity bring about, either already or before long, a corresponding increase of the demand for aid to professional poverty; while, as regards the other charity, it is only reasonable to reflect that the claims upon it are invited from so large an area, and, let us add, from one which is in many quarters so much more precariously nourished, that in course of time it may be expected in the very nature of things that architecture must go somewhat to the wall. It is in these circumstances that the *Architects' Benevolent Society* was established five and twenty years ago, and has been maintained up to this time in an extremely unostentatious way, for the express purpose of providing, from within the profession itself, and by the ordinary means of small annual subscriptions, donations, and bequests, a permanent income for distribution amongst what may be called the architectural poor exclusively. The capital fund as yet is small. It increases but too slowly. The administration of the revenue is based upon those principles of extreme delicacy which do not favour, in these advertising days, the rapid growth of a charity. No salaries are paid for management, and thus perhaps the advantages are lost which are derived from expert advocacy. But there is many a poor recipient of its bounty, whether a broken down architect, a widow, or a penniless child, who nevertheless is able to testify that within the limits of its humble means, there is no charity amongst the hundreds that pursue their beneficent purpose in London whose kindly task is more serviceably or more tenderly performed.

We are quite aware of the fact that the confession of a limited sphere of usefulness is held to furnish an excuse for disregarding the demands of such an institution as this for public support. It will be said that there can be no pressing necessity for contributions unless the claims for relief are actually overwhelming. But this is not a sound argument by any means. In the first place we regret to say that the appearance of urgent need on the part of a charitable organisation is not unfrequently somewhat fictitious; and we may certainly add that when any institution of the kind is found to avoid claptrap appeals, to offer no artificial inducements such as voting privileges and the ostentatious publication of individual benevolence, to rely upon the complacency of a good cause which "vaunteth not itself," and the respectability of a handful of quiet good men who "are not puffed up," this is the kind of charity above all others which sensible persons ought to look closely into. Upon this principle we have every reason to believe the charity before us takes its modest stand, in full consciousness of its real and substantial claims upon the architectural profession, and perfectly confident that whoever will take the trouble to make private inquiries as to its usefulness can be easily and thoroughly satisfied. It can scarcely be disputed that in these days such a profession as the architects of England cannot dispense with such an organisation. It is certain that, even if the demands upon its funds were much less urgent than we believe they are, they must before long, owing to the rapid growth of the profession, become much augmented. Neither can it be doubted that the knowledge of its insufficient revenue keeps away many whom it would be a pleasure no less than a duty to help. More than this we think it needless to say. The cause requires no rhetorical advocacy. It is enough to assert that every one who professes to be an architect ought to send his Christmas mite, however small, to assist the good cause of *The Architects' Benevolent Society*. If we have no other diploma, let this at least constitute one.

COMPETITIONS AND PROFESSIONAL REFEREES.

By EDWARD W. GODWIN, F.S.A.

ARCHITECTURAL competitions have for some time past been well known to be shams and snares. Architects and architectural amateurs have alike decried the system, and yet in most public and in all limited competitions may be found the names of those who in private can scarce find words strong enough to convey their denunciations.

The elder and even the middle-aged men in our profession can recall a time when the one great reform required to reconcile them to the expenditure, the anxiety, the many grievous disappointments, and not unfrequently the sense of bitter injustice involved in the combat

of architectural designs, was to secure a competent judgment. And this, it was thought, could only be attained by the inviters appointing an architect of eminence not otherwise interested in the combat as their adviser, assessor, referee, or adjudicator. It was fondly hoped that when this was secured the competitors or invitees would be at least relieved from the sense of injustice—or, more correctly speaking, a sense of a failure of justice from incompetence on the part of the judges—which had hitherto very naturally been the chiefest rock ahead. Time has proved that this hope was founded on a delusion. The invitees reasonably enough thought that, when the inviters called in an eminent architect to advise them on the two great questions of every competition—viz., which architect had best fulfilled the practical instructions, and which had shown the most power in the art of design or architectural composition—the competitors, I say, thought, and I maintain rightly thought, that common sense and common justice would have compelled the inviters to have accepted and acted on such advice, or, if rejected, to have given ample grounds for its rejection. The result of some late architectural combats proves very clearly that this long-desired security of a professional referee has grown to be as much a snare as anything which could well have been devised. We hold out, say the inviters, this inducement for you to enter our lists, that we will call in some eminent London architect to advise as to the merits of the designs; and not uncommonly they go further, and therewith name his name, and tell them plainly that it is—Mr. EWAN CHRISTIAN. (And here I trust Mr. CHRISTIAN will not suppose I have selected his name individually. I only mention him because he is the referee whose action in a recent church competition was the subject of a somewhat strong appeal from a competitor in a late number of this journal.)

And now, the measure of shams and snares being complete, let us see first of all what they are, and then, as it is manifest that the public are against us, we will inquire whether there is not some course which referees and competitors may take to guard against that miscarriage of justice which seems to threaten more or less every private as well as public competition.

An architectural competition may be divided into four parts—(1) the invitation; (2) the instructions; (3) the response; (4) the judgment.

The invitation in public cases is in the form of advertisement with which most of us are familiar. In this advertisement there is generally held out at the onset an offer which the inviters regard as an inducement to architects to respond. Sometimes the inducement is in the shape of an offer of £l. for the best design, sometimes it is as much as 800*l.* or more, and in these large cases there is generally a graduated series of prizes or inducements for the best, second, third, and so on. A common form is that consisting of three chances (not one certain): (1) the work itself; (2) a sum of money from one-sixth to one-twelfth the value of the drawings; and (3) a sum of money from fifty to a hundred per cent. less than the last. There is, however, a very great variety, and I cannot do better than refer to the list of "competitions open" at Christmas as an illustration. Thus, the Free Church Committee at Banchoy, Ternan, wish for a design for a church (with a spire), to accommodate 750, at a cost of 1,800*l.*, and for the "accepted plan" they offer 12*l.* 12*s.* The Committee for the Town Hall, Paisley, offer three premiums—100*l.*, 50*l.*, and 25*l.*—for a building which is to cost 18,000*l.*, and the municipality of Odessa promise two premiums—960*l.* and 320*l.*—for the first and second best designs for an opera house, to cost 128,000*l.* There are some competitions where no premium of any kind is offered, and there are some where, the number of invitees being limited, each receives an equal honorarium, as in the Law Courts and Edinburgh Cathedral competitions.

The sham and snare in all these cases consists in the ominous silence maintained as to the erection of the building itself. The real prize in the combat, the victor's crown—the execution of the work—is really rarely, if ever, promised to the author of the best design. There is nearly always some loophole of escape for the inviters, and they too often make use of it.

(2.) The advertisement, circular, or letter—the ground bait of the transaction—having brought together the victims, they are furnished with a plan of site and certain written instructions. These latter are sometimes of the most open and vague character, going, indeed, so far as to say that the competitor is not expected to be bound by them, but that, on the contrary, he may vary them as he sees necessary, as they are only intended to serve as suggestions. On the other hand, the instructions are sometimes drawn up in a rigid, inflexible phraseology that almost paralyzes the nervous young architect, for fear lest in an unsuspecting moment, when the passion of design is strong upon him, he may forget some little clause directing him to avoid external flues.

The first kind are gross palpable snares. Comparison of the merits of designs framed on a common basis is at times quite difficult enough to scare even eminent architects from recording their judgment. How much more difficult then, must it be when the instructions are loosely worded, and each competitor is given permission to vary at his own discretion? One of our eminent architects, acting once as a referee with instructions of this nature before him, actually disqualified certain designs for not conforming to the instructions, he either having overlooked the clause giving liberty to vary the instructions at discretion, or feeling his position utterly hopeless if he once admitted this principle. Rigid instructions are the best, but

even here it must not be supposed that an equally rigid adherence to them will result in safety, and as a remarkable example of this I may cite the case of the Bristol Assize Courts competition.

(3.) The responses to the invitation to compete, in other words, the designs and the reports sent with them, are in the great majority of cases shams and delusions. Indeed, the character of most competition drawings having been found out by referee architects, and even amateur judges, to be eminently deceptive, their untrustworthiness has been reflected by mere companionship on not a few designs which an unprejudiced examination would have shown to have been free from any such defect. Perspectives in competitions are essentially delusive. No one has time to test all of them, and yet in numbers of cases experienced eyes can see how thoroughly false they are both to plans and elevations. "Cooking" a perspective is, I believe, the draughtsman's expression for this kind of sham, and I regret to say that this *art* of drawing is recognised or permitted by well-known architects as well as by their struggling juniors.

(4.) The judgment or final stage of a competition may be of three kinds—(a) where it is given by the inviters unadvised; (b) where it is given by the inviters after receiving professional advice; (c) where it is given by the professional adviser or referee. All these may be delusions. Thus (a) we may have to submit to the judgment of utterly incompetent noodledom—men who have possibly never seen a set of architectural drawings before; or (b) we may have the (if possible) worse case of being judged by men who, having fixed or partly fixed on their architect, have, of malice aforethought, used the sham of a competition for the satisfaction of outsiders, and who, to give security for the genuineness of their judgment, delude the unwary by a pretence that they are acting with the advice of a competent, skilled, and maybe eminent architect; or (c), last of all, if the name of the referee is withheld until after the response is made, the unfortunate invitees may discover when it is too late that it is a man possessing no art-judgment whatsoever, or maybe one who is prejudiced to the utmost, and slavishly identified with some particular style or school opposed to that pervading the competition designs—in a word, such an unfit judge that, had his name been published with the instructions, a large number of competitors might have shrunk altogether from the combat. We need not go beyond the architectural history of the year just closed for examples of each sort of judgment.

Perhaps one of the very weakest kinds of judgment ever recorded is that described by Mr. EDM in a late number of this journal. I know nothing of the details of the instructions or the merits of the designs. The questions as to cost, accommodation, and architecture are small matters, it seems to me, compared with the nature of the judgment. I have before me as I write *The Richmond and Twickenham Times* of August 22, 1874, containing a letter on this subject, and if it be true, as there stated, that the committee's decision is at variance with that of the architect they selected to advise them, and that the design he in his report placed fourth they afterwards placed first, we cannot be very much surprised at the committee declining to make known to unsuccessful competitors or subscribers the report of their professional coadjutor. But I cannot understand why Mr. EWAN CHRISTIAN, the professional adviser to the committee, should maintain an equally severe reticence. If these reports or judgments of professional assessors are to be treated as if they were private letters from the family lawyer, their value as an inducement to architects to compete will disappear altogether. The subscribers have at any rate a legal right to see a report, the cost of which it may fairly be presumed comes out of their pockets, and any assertion that such report is private and confidential is mere assertion and nothing more, for in the very nature of things such report cannot be made private and confidential. If one man on a committee paid me to give him my private opinion on the merits of the designs, that opinion might be made a confidential communication. But a committee acting in their corporate capacity, who, in their instructions, promise, as a sort of security to the competitors and the public, that they will call to their aid "a consulting architect," are bound in honour to give the opinion of their referee, and they must be conscious, to say the least, of some great defect of management if they cannot face the publication of his report. This leads me to the consideration of one of the reforms now much needed in competition, and that is the reform of the referee system.

And first of all we want the referee to get rid of the notion which seems to be entertained by some, that because he accepts a fee for his counsel or opinion he is necessarily the servant or slave of the inviters, and bound to conform to their wishes. If the inviters hold out no promise of consulting an architect, if privately they ask one or two or a dozen professional men their opinions, they are welcome to do so without any one caring two straws about it; but when, in the advertisement or instructions, they mention their intention of calling in professional advice it is manifest that, for the future, they must go further than this if confidence is to be established. We (and I speak as a competitor in no way ashamed of my competition practice, successful or not) must now require from the inviters:—(1.) The name of the referee. (2.) A promise to abide by his opinion, or, in the event of a dispute arising concerning it, that they will call in a second architect, who shall be nominated by the referee. (3.) That the reports of such referee or referees shall be published in the architectural journals, or copies of them (in the case of small un-

important work) shall be given to the competitors. To secure these conditions we only want the co-operation of those of our professional brethren who are usually employed as advisers or referees. Can we rely on this co-operation? Or are these eminent architects so fearful of giving offence to the nobility, clergy, gentry, and tradesfolk, who consult them, that they would rather see a miscarriage of justice than run any risk of alienating the smallest fraction of that society to which they look for patronage? These are hard questions, no doubt, but it is fully time that they were looked fairly in the face and answered. The troubles of architects as a profession, the disappointments and unfair decisions in competitions, are, in great measure, brought about by the architects themselves. Were there any real *esprit de corps*, were there cohesiveness among architects themselves, were those who stand high in the ranks to consider that they are responsible for much of, if not all, the contempt (I use the word advisedly) with which the general public regard the profession, we should not have recorded in the professional journals so many examples of a miserable sham riding rough-shod over the course which might have been, and yet may be, devoted to genuine and zealous art-work.

This, then, is the first reform needed, and it is entirely in the hands of the leading men in the profession. Let them, when called on to advise the inviters of a competition, systematically decline to do so unless under the terms I have just sketched, and in a very short time we shall all be benefitted by their firmness. If we reaped nothing else we should reap confidence, and we should be quite satisfied to do without professional referees if the inviters would not accede to such terms, for where they would not we should be warned in time of the sham and of the snare they would set for us.

But there are other reforms needed besides this one of the referees, and those who commonly act as referees may do much to effect them. Thus, it is essential that the author of the best design should be accepted as the architect for the work, even though the work may be delayed or the site changed. Then, as to premiums, the first man should always receive the commission to carry the design into execution; the second, in a number of instances that have come under my notice, might fairly have been united to the first. Usually he should receive a sum of money, from 1½ per cent. to 2 per cent. on the estimated cost, whilst small sums, from 10l. to 50l., should be given to all others who fairly fulfilled the conditions without offence to art. The instructions cannot be too rigid, and should be approved by the referees. But, says the young architect, if the referees be consulted beforehand, he might stop the whole competition, and get the work into his own hands. So he might, and so probably he has, although hitherto he has only been consulted at the last. No doubt it would be better if we had a small class of consulting architects who would consent to work only in this capacity; for the present, however, we must have faith in our referees as they are, and endeavour to get them to act so as to secure the reforms so much needed.

Competition drawings require also much reform. Indian ink alone should be allowed; no shading or back lining should be permitted, and, above all, no etching.

I am one of the small minority who, in spite of numerous failures, believe in the power for good of architectural competitions. That the system is in a perilous state, that it is only a threadbare cloak for chicanery and humbug, that it holds out false hopes, and so crowds the ranks of the profession with hosts of young men who ought to be at school, are facts which, I regret to say, are too well known. But that the humbug may be exposed and stopped and the system righted, I fully believe, if the strong ones among us will but maintain an attitude towards the public commensurate with their professional position.

EXHIBITION OF OLD MASTERS.—I.

THE Winter Exhibition at Burlington House again assumes the aspect with which the series was inaugurated four seasons ago. Last winter the Old Masters gave way to the productions of the late Sir EDWIN LANDSEER, and a tribute to the memory of our animal painter thus interrupted the more precious succession of exhibitions now resumed. The association of works by deceased British artists with those of the great foreign schools, has led to the more definite plan of especially representing two or more masters by a selection from the most important of their pictures. Thus STANFIELD and LANDSEER, in the opening exhibition of 1870, were fully illustrated; in 1871 STOTHARD was prominent; this was also a great GAINSBOROUGH year; 1872 brought out CROMBIE, CONSTABLE and DAVID WILKIE; the exhibition of 1873 was especially rich in TURNER, and a representative collection of the English water-colour school proved strong in DE WINT, JOHN COZENS, COX, and WILLIAM HUNT. Then came the LANDSEER exhibition. This year MACLISE and Sir AUGUSTUS CARRIOTT are the two British artists more especially illustrated. EERY was to have been added, but difficulties arose as to transit of the important Scottish pictures, and it was wisely determined to delay the illustration of this painter until those works can be obtained.

The proportion of British pictures this year is large, being indeed considerably more than half of the whole number. Between forty and fifty works of the Italian School have been contributed, chiefly from collections of recent formation; of these the remarkable panel

picture attributed to COSIMO ROSSELLI (181), and that called the *Ascension of the Virgin* (187), by FRA ANGELO, but probably a Sienese production, both lent by Mr. FULLER MAITLAND, are the most noteworthy. The *Virgin and Child and St. John* (128), by ANDREA DEL SARTO, belonging to Madame DE MEILLER, is a characteristic work, and Mr. GRAHAM lends, among others, an ugly but genuine FILIPPO LIPPI, *Virgin and Child with Angels* (185), and a beautiful *Madonna and Child* (182) by CARLO CRIVELLI. The Venetian masters show rather poorly; perhaps the most satisfactory examples are the little *Love riding a lion*, by TITIAN (126), from Mr. GRAHAM, and EARL YARBOROUGH'S *Deposition*, a not pleasing but powerful study by TINTORETTO. The Spanish School is worthily, though scantily, present in the fine portraits by VELASQUEZ, and two single figures, *St. Benedict* and *St. Jerome* (197, 200), by ZURBARAN, contributed by Lord HETTESBURY. The oft quoted criticism of Mr. FORD on Spanish art, as solemn, decent, and draped, is apt for these striking examples of an eccentric master. Between fifty and sixty specimens bring Flemish and Dutch Schools nearest to English in number, while of French pictures we count ten, two of the number being of men so nearly contemporary as GERCAULT and DECAMPS.

Previous exhibitions have somewhat drained the resources of the great ancestral collections, or possibly it may have been found easier to obtain loans from *dilettanti*, whose works will gain prestige by their appearance on the Academy walls. At any rate a large percentage of the pictures come from less accredited collections, from artists or private individuals who have picked up unauthenticated works of worth which, on this public appearance, may gain valuable criticism, and, possibly, safe nomenclature. Among patrician possessors who have lent of their stores to this exhibition, most generous have been the Dukes of ABERCORN and of SUTHERLAND, EARLS DENBIGH, FITZWILLIAM, and YARBOROUGH, the Marquis of BRISTOL and Sir WILLIAM MILES; the well-known collection of Mr. FULLER MAITLAND has been laid under levy, and Mr. W. GRAHAM and Mr. A. LEVY are extensive contributors, also Mr. KIRKMAN HODGSON, M.P. and Mr. F. COOK. It is interesting to see, as lenders, the names of the Academicians, Mr. E. W. COOKE, Mr. COUSINS and Mr. WOOLNER, and of Mr. G. BOYCE, of the old Water-Colour Society. Artists are often the happy discoverers of gems of old art, which their trained eyes have spied out in the odd corners of curiosity shops, or the homes of ignorant descendants of great men.

The hanging has been again conducted on the principle of distributing the interest of the collection over the various galleries, with, at the same time, some attempt at concentrating schools. Gallery IV. gathers the early Italian pictures. Galleries I. and II. are chiefly British. The chief room, No. III., is generally representative, and makes a decorative appearance, with RUBENS' *Conversion of St. Paul* (110), a showy, if coarse, centre-piece at the head of the gallery. TURNER'S large *Vintage at Macon* (122), on the north wall, is flanked by two splendid VELASQUEZ portraits. On the opposite wall hang the *Deposition of REMBRANDT*, lent by the Duke of ABERCORN, the grand portrait of the *Earl of Essex*, by Sir ANTONIO MORE, and TURNER'S *Wreck of the Minotaur*, while at the end of the gallery REYNOLDS' charming though faded group of *Lady Amabel and Lady Mary de Grey* (189), and the companion picture of *The late Earl de Grey, Frederick and Philip Robinson as boys* (144), take each side of the entrance, together with the fine VANDYKE portrait of *An Artist* (141), and a portrait (142), by FRANK HALS, from the Royal collection.

Portraiture and landscape may be considered to hold highest rank this year. The subject pictures are few or doubtful among the early masters, and sacred art, owing to the comparatively few contributions of the Italian school, is also in abeyance. The modern MACLISE is the chief representative of imaginative subjects with the immense canvas of *The Marriage of Strongbow* (78), the well studied composition of *Carton's Printing Office in the Almonry, at Westminster* (44), *The Eve of St. Agnes* (77), *The Last Sleep of Duncan* (148), and *The Banquet Scene in Macbeth* (211). But even this array of dramatic subject matter is overweighed by the portraits of VANDYKE, REMBRANDT, MORE, VELASQUEZ, REYNOLDS, GAINSBOROUGH, HOGARTH, and the landscapes of TURNER, CROMBIE, CALLOOT, COYMAN, RUTSDAEL, MÜLLER, COX, and others.

On the whole the collection is full of interest, though it cannot be said to equal that of one or two previous seasons back. It is not, of course, to be expected that noblemen will strip their galleries year after year to make attractive the walls at Burlington House, and the Royal collection is not easily broken into. Yet it strikes us that so many and rich are the private British galleries that more strenuous efforts might have elicited more ample response from great owners than appears by the results this year. Scotland is not exhausted, and many princely English houses have been merely dipped into. The council have done so well that the public expects better with the proverbial impatience of gratitude.

We hope to follow up these introductory remarks by more detailed notice next week.

Messrs. Letts, Son & Co., Limited, have sent us some samples of their Diaries for 1876. The reputation of this firm is so universally acknowledged, and so associated with these publications, that it is sufficient to say that the new issues of the diaries are equal to those of former years, in correctness of information, in manner of arrangement, in quality of execution, and in cheapness.

THE INDUSTRIAL DWELLINGS COMPETITION.

THE Improved Industrial Dwellings Company (Limited) have thought proper to institute a competition of architects, under circumstances which render the case both exceptional and instructive. The company had been carrying out their many buildings upon designs chiefly, if not solely prepared, as we understand, by Mr. LEE, of Finsbury Circus, and had met with a remarkable degree of success. Being about largely to increase their buildings, they considered it possible that a new light might be thrown upon the work they had undertaken were they to invite new designs from architects, and there is no doubt that their prestige, their large command of funds, and the immense importance of the subject of labourers' dwellings, would have rendered it possible for them to obtain the designs of the very ablest architects who have paid attention to the subject had they chosen to take the right course.

Instead, however, of offering the construction of the building to the successful competitor, and so attracting those whose designs they really wanted, they contrived so effectually to strangle the competition that the only surprise is that any designs at all should have come in from men of position.

The premiums offered, namely, 250*l.* and 150*l.*, were the only inducements. The directors, it is true, merely said in their conditions that they did not bind themselves to employ the successful competitor; but those who thought it worth while to inquire into the actual position of the undertaking were easily able to learn that the present architect had in no way lost the confidence of the Board, and that whatever design might be carried out, and however good the professional standing of its author might be, there was no reasonable room to hope that it would be put into the hands of the successful competitor in the usual and proper manner.

This, however, was not all; a prizeman in so important a competition could at least win distinction, and he might fairly hope to be employed by some of the other societies or benevolent persons who are building dwellings for the poor to carry out a design which such high authorities had approved. But no, it will hardly be believed that the directors had the eminent unwisdom to stipulate that "the copyright of the designs" for which they paid premiums should become theirs. We know not exactly what was intended by this condition, but there can be no doubt that every honourable architect would feel that, under such a condition, he would at least be morally bound not to attempt to carry out his design for other parties; while any architect less conscientious in his mode of considering these matters would understand that he was liable at least to a threat of legal proceedings, and, perhaps, to actual prosecution if, after having earned distinction, he attempted to turn it to account, and make use of the premiated design.

Having thus brought down their prizes to the narrow limits of 400*l.* in money, and an uncertain amount of fame coupled with an ominous stipulation, it is not to be wondered at if the directors received but a very small number of designs, and if the majority of them were the works of inexperienced men.

The sets of plans, twenty in number, have been hung in the hall of St. Bartholomew's Hospital, and an inspection of them is the more interesting as the premiated and commended ones are marked, and the observer can see for himself what the directors and their able advisers, Mr. GEORGE GODWIN and Mr. CHARLES BARRY, consider to be good designs for the purpose. The problem was a double one, part of the work consisted in so laying out a large irregular site of a difficult outline as to occupy it in the most satisfactory manner, and part of it consisted in designing the tenements themselves, of which the blocks of buildings were to consist. We should judge from the results the premiums have been adjudged mainly upon the merits or defects of the plans for tenements; that the block-plan also held an important place in the estimation of the judges.

The points which appear to have chiefly been valued in the arrangement of the dwellings are, 1st, ventilation, and 2nd, privacy. In the first premiated design, "Salutaris," the architect, Mr. H. MACAULAY, simply ignores one of the great difficulties, the existence of a large building now on the site, and his arrangement of block plan is airy, but somewhat clumsy. The staircases of his tenements project beyond the blocks of buildings, but each room of a house is separately reached; indeed, the amount of internal corridors is, to our mind, wasteful. The buildings are simple, the rooms of fair size and shape, though some of them disproportionately long; and the arrangements for the various little addenda which a tenement requires to make it habitable are admirable. The height from floor to ceiling seems to us unnecessarily great, and this circumstance would combine with the comparatively large amount of internal corridors, and with the use of rolled iron joists in the floors, to raise the cost of the buildings.

The architectural treatment, what there is of it, is suited to brick; the mode of constructing walls shown is admirable, but not, we believe, likely to obtain the sanction of any district surveyor, as it is clearly in contravention of the London Building Act. Still altogether we are not inclined to question the decision of the judges, though the superiority of the premiated plan is not so striking as might have been wished.

"Self-contained" is the motto of Mr. BANISTER FLETCHER's designs, which obtained the second premium. Upon these plans very

great labour has been spent, and in the block plan this architect appears to us to have hit upon a far happier mode of occupying the interior of the site than his rival. A portion of the dwellings are upon the balcony system, i.e., there are staircases at intervals, and you pass the door and windows of one tenement to reach another; but in the majority of cases this does not occur. The staircases are all projecting. The design of individual tenements is most fully shown, and though there are here and there instances where the ventilation is not quite so successful as in the first premiated design, there is, on the other hand, more completeness and less space lost in corridors. We may add that Mr. FLETCHER has hit upon an excellent method of disposing of one of the difficult features in the case—an acute angle which occurs at one boundary of the site.

"Strive," a design by Mr. ROBERT WALKER, has been commended by the referees. The treatment of the block plan is hardly so good as in the previous cases, but great pains has been bestowed upon the dwellings themselves; many varieties of arrangement are shown, and there is more attempt than either of the previous competitors have made at giving a suitable though moderate degree of architectural character to the buildings. The staircases are not projecting. The dwellings are more crowded, and cross ventilation is not so uniformly well secured as in the premiated plans, but still external lighting has been constantly kept in view.

"Usui civium," by Messrs. R. J. POPE & SON, of Bristol, is shown upon a very small number of drawings. The block plan is well dealt with, a road being formed across it, and the plans of the dwellings are also good, though the elevations are of the plainest description. The bed-rooms form projecting blocks towards the rear; the ventilation is good, and there is access by a passage to each room.

"250," by Mr. J. T. SMITH, presents an excellent block plan not dissimilar to that of Messrs. POPE, and there are many good points in the planning of the tenements, especially in the economy of space in corridors. The elevations are weak and badly drawn, and their serious defects have possibly helped to prevent the designs from taking a higher position.

We have now exhausted the list of designs commended by the referees, but one remains which is "commended by the directors." It bears the motto "Hygiene," and is by Mr. H. D. SHEPARD. The block plan surrounds the site, and leaves the central space unoccupied, and the site generally is far less fully occupied than other competitors have judged desirable. The staircases do not project. The rooms are mostly square, and are separately reached by corridors, but the corridors themselves are not (as in the prize design) well lighted and ventilated. The architectural treatment is good and simple, and a few features have been introduced to give it emphasis.

The most conspicuous designs among the fourteen sets of drawings which have failed to win commendation are those by Messrs. LEE BROTHERS & PAIN, and Messrs. HORNBLLOWER & SON. It is, indeed, hard to comprehend on what principle "Ex sorde dare munditiam" the carefully-prepared design of Messrs. HORNBLLOWER was judged less worthy of commendation than some of those selected. The block plan is very clever; the dwellings are well arranged and more economical than most of those premiated, and the details shown are capital. It is true Messrs. HORNBLLOWER have made very large use of the balcony system, but the balconies have not prevented Mr. FLETCHER from obtaining a prize, and they are considered by excellent authorities, for example, by Miss OCTAVIA HILL, perhaps the best informed judge of the subject living, as the most useful expedient yet tried. There is an absence of internal corridors, and perhaps the scullery and conveniences connected with it are compressed into too small a space, but we must say, with every desire to give full credit to the judges and the directors, that Messrs. HORNBLLOWER's plans have an equal claim to commendation with those selected.

It is less difficult to see where Messrs. LEE BROTHERS & PAIN failed. In their design, "Domus amica, domus optima," they have many excellent points, and the drawings are vigorous and good; but at least half the tenements are too compact for thorough ventilation. They have, in fact, attempted almost too much, and have overcrowded the buildings. The centre of the site is in this design occupied by a building of which the plan is a perfect marvel of ingenuity and skill, being, no doubt, the cleverest individual specimen of arrangement exhibited.

The remaining designs we do not propose to examine at length. They include "Fiat," by Mr. G. A. LEAN, showing a back to back arrangement and a make-believe roof, but rather good detail. "Comfort," by Messrs. DRURY and MORTIMER, an overcrowded design. "Work hard," &c., by Mr. H. AMBROSE, a design which fails properly to utilise the site. "Aspiro," by Mr. G. RANSOME, a good design very closely resembling the present buildings. "Omne tulet," &c., by Mr. F. T. DOLLMAN and Mr. W. T. ALLEN, shown by excellent drawings, but with an overdone system of iron balconies and too few staircases. "Palmarum qui meruit ferat," by Mr. W. NICOL. "Efficiency with economy." No author's name. "Au bon droit," by Messrs. HABERSHON and PITE, a balcony design with a crowded block plan. "Deus nobis," by Mr. C. W. HARVEY, Manchester, and "Beta," by Mr. J. HARRIS, both suffering from overcrowding; while last and also least comes "Vi et virtute," a design not sufficiently worked out for the purposes of a competition.

In taking leave of the subject, we may remark that the directors have placed in the room a model of their buildings as sent by them to

the Vienna Exhibition. The principal improvement, if the best of the premiated and commended plans be compared with these, seems to be the throwing the staircases outside the block—a better shape for each room—and an access by an internal corridor to each room. Of course the directors, who avow that they are building for the best class of the London poor are quite right to give as much comfort as they can, but we believe that their own model, in which the bedrooms and scullery open out of the living room, is more suitable for the uses of the poor than the model with internal corridors. It appears, lastly, worth pointing out that the number of single rooms provided ranges from 1,007, which Messrs. HORNBLOWER's plans provide, to 640 in Mr. AMBROSE's plan. The first premium is given to a design which is almost as low in number of rooms as Mr. AMBROSE's, for Mr. MACAULAY only furnishes 650 rooms; and the second is given to one almost as high as Messrs. HORNBLOWER, for Mr. BANISTER FLETCHER provides 1,044 rooms. The only design selected by the directors for commendation, that of Mr. SMITH, provides 912 rooms; Mr. WALKER gives 1,038, Messrs. POPE 807, and Mr. SHEPPARD 666. This consideration, though a point of vital importance, cannot, therefore, have governed the decision to any extent—at least no clue to the opinion of the referees or directors can be gathered from a comparison of the very different tables of accommodation to which they have awarded praise.

MINIATURE PAINTING.

WE take the following article, by Mr. S. Wagner, jun., from the *Penn Monthly*, the best of the American magazines:—

The subject of miniature painting is one which cannot, perhaps, be treated satisfactorily within the limits of a short Paper, and yet it is one of so much interest, and so instructive in the history and principles of the purest forms of art, that even a brief consideration will be a source of profit and pleasure. For miniature painting, more perhaps than most forms of art-work, strongly appeals to the finer feelings of our nature. It carries us back in imagination to the humble cells of the monks of medieval times, where, day after day, year after year, and even lifetime after lifetime, the faithful artists poured out the whole earnestness and piety of their nature in the work of enriching the pages of the Missal and the Breviary; and it recalls, in later times, when the purposes of the art were changed, the triumph of the gifted artist, whose skill and patient labour is able to produce for others tiny pictures on little bits of ivory, which will be enduring recollections not only of the features, but of the characters also of those they love. Much pleasing romance, too, there is gathered around the history of miniature painting, and much that would furnish, perhaps, more entertaining matter for a Paper than this will promise; but our present purpose is rather to look for a moment into the history of this beautiful art, to note its effect upon the rise and progress of the art of painting, and to recall the names of a few of those who have been the most successful in such work in Europe and in our own country. And in these days of hurried work and labour-saving inventions, when a good photographer and an indifferent artist, or the latter alone, will, for a trifling sum and upon a week's notice, produce a portrait or a copy of the work of an old master sufficiently satisfactory to the average mind and taste, it is worth our while to pause, and justly admire the work of the *pre-photographic* days, when the best of artists were willing to expend their time and abilities generously upon such work, and our grandfathers and grandmothers were glad to pay them well for such valuable treasures of art.

In tracing the origin of miniature painting, we are carried back to the earliest periods in which art in any form was known. For we are told that the ancient Egyptians were in the habit of adorning their papyri with miniature paintings of hieroglyphics; and Pliny tells us that a similar art was practised in the early days of Greece and Rome. And that it was still existing in the earlier period of the Christian era is evidenced by the fact that there are still preserved two specimens at least of manuscript illuminations, probably of the fourth or fifth century: a fragment of a Virgil (which, although a fragment, contains 60 miniatures) in the Vatican, and a portion of a copy of Homer in the Ambrosian Library at Milan.

But it was in the middle ages, from the eighth to the end of the fourteenth century, that this art reached its perfect development; for during that period, in nearly all the religious houses, the monks spent much time in its careful study, and in the patient labour of illuminating their manuscripts of the sacred volumes and copies of the works of the classical authors. They were called *illuminatori*, and from the fact that the initial letter of a chapter or a paragraph was painted in red, the pigment for which was the Latin *minium*, or red lead, they acquired the name of *miniatori*, from which our word *miniature* is formed. Curiously enough, therefore, this word, which always conveys now the idea of *smallness* or *minuteness*, and which we have adopted as an adjective also to express the same idea, comes directly from a word which did not in any way indicate the size of the picture, but only the colour of the initial letter which, with its ornamentation, furnished the border or frame in which the picture was set.

It would be impossible to say too much in praise of the work of these "miniatori" of the Middle Ages. All over Europe—in Italy, France, Germany, the Low Countries, Spain, and England, this beautiful art was assiduously studied, and with wonderful results: and those who have seen the superb examples preserved in the many collections of the manuscript illuminations of these old artists find it difficult to say in what country the finest were produced. And it is impossible to over-estimate, too, the value of this work in preserving and supplying valuable material for the development of the art of painting throughout the world. These little paintings, the results of earnest thought and patient, painstaking care in the cloister and the cell, furnished the "*studies*" for those great masterpieces, on panel, on wall, and on canvas, which mark a golden age in the Art of Painting.

With the invention of printing, miniature painting, in the form it had thus far taken, practically disappeared, and in modern times it has been confined almost entirely to the production of portraits. In this direction, too, it has played an important part in the history of art, by teaching faithful accuracy of drawing and delicacy of expression, and serving at the same time, more than any other department of painting, to produce and preserve a succession of portraits, more or less faithful, of men and women noted in history.

In France we find a succession of eminent artists devoting themselves exclusively, almost, to this department of art. Among the more recent of these the most prominent are Augustin and Isabey. To Augustin especially, modern miniature painting is indebted perhaps more than to any one else; for not only did he apply himself faithfully, for a period of more than forty years, to the production of a series of "correctly drawn, highly finished, and finely coloured portraits," as Gabet describes them, but he established in Paris, and taught for many years, a school of painting, at which many of the best miniature painters of the present day were educated. Isabey was a pupil of David, and intended for a historical painter; but he abandoned that pursuit early in life, and devoted himself entirely to miniature painting. An art critic says of him: "He is the only artist who can compare with Augustin: if the latter possessed more strength and warmth of colour, Isabey has greater delicacy and softness."

In England we find almost a continuous line of distinguished miniature painters, extending from the early part of the sixteenth century down to the present time. The famous Hans Holbein, who did so much for England in the way of portrait painting, was sent, the historian tells us, with a letter to Sir Thomas More. The good Lord Chancellor was so much pleased with him and with his work, that he persuaded him to establish himself at his house; and while there Holbein painted several pictures, with which the hall of the house was adorned. Sir Thomas, wishing him to be presented to the King, adopted the simple but effective plan of inviting the King to his house to a banquet, and when there, His Majesty was so much pleased with what he saw, that he carried off both pictures and artist, and gave them quarters in the palace, where Holbein remained, in very comfortable circumstances apparently, for many years. Although Holbein painted but little in miniature, yet that little was enough to draw out of his goldsmith's shop at Exeter Nicholas Hilliard, who, beginning with the study of Holbein's designs, soon became famous as a miniaturist, and was appointed court portrait painter to Queen Elizabeth. Then followed Isaac Oliver, a pupil of Hilliard, of whom it is said: "He has hardly been surpassed by any artist of any country," and he left as a worthy successor in his art, his son, Peter Oliver. He and his contemporary, John Hoskins were the famous miniature painters of Charles I.'s time. Hoskins' pupil, Samuel Cooper, was noted as the artist who painted the portraits of Oliver Cromwell and John Milton, and Spooner says of him: "He was the first artist of his country who gave a strength and freedom to miniature painting; his colouring was pure, his carnations were beautiful, and the hair was painted in a flowing, elegant manner." Then followed Flatman, Gibson, Cosway, and others, until we come, by an easy transition, to that part of our subject which is perhaps of more immediate interest to us now—the miniature painters of our own country. Foremost of these, without doubt, and equal perhaps to any of his contemporaries in Europe, is Malbone, many of whose paintings we have among us. He was born in Newport, Rhode Island, in the latter part of the last century, and lived there at a time when that old city was a centre of great culture and refinement. Oddly enough, the first real exhibition of his talent was in painting a scene for the theatre in Newport when a boy, and the next exhibition we have of it is in his exquisitely painted miniature portraits. No more graceful criticism upon the value of his paintings can be given than in the words of his very dear friend, Washington Allston, a man whose pen was as graceful as his pencil. "He had the happy talent," he says, "among his other excellences, of elevating the character, without impairing the likeness. This was remarkable in his male heads, and no woman ever lost beauty under his hand. To this he added a grace of execution all his own."

The intimate friend of Malbone in early life, Charles Fraser, of South Carolina, was much noted as a miniature painter. Almost every person of note in his native State, for a period of more than fifty years, was the subject of his portraiture. George Catlin, a Philadelphian chiefly noted for his studies of the manners and customs of the Indian tribes of North America and his portraiture of their chiefs, was a miniaturist of great merit; and Henry Inman, also, of New York, whose excellent portraits in oil are so well known and so much admired, sometimes painted miniature portraits, which are greatly prized. But the best known of the miniature painters of our own city (Philadelphia) are the Peales, father and son, the latter especially having been engaged in work of this kind during nearly half a century. He devoted very much time and careful study to the production of faithful portraits of Washington from life studies.

Within the past few years the camera of the photographer has dealt a blow to miniature painting somewhat similar to that which it received from the printing-press several hundred years ago. But so long as art is anything more than mere imitation, the occupation of the portrait painter will not be gone. He may call photography to his aid to gain accuracy of drawing and correctness of proportion, but there remains always to be done that which cannot be the work of a machine, but of the gifted artist only, to throw into the portrait the expression of character and of intelligent life.

A word, before concluding, as to the method of work in this art. Strictly speaking, miniature painting includes only water colour painting on vellum or ivory. And yet there is an important distinction between the method of painting known as *gauche*, and the true aquarelle. The first of these is the method adopted in work upon vellum, such as the richly illuminated manuscripts of the Middle Ages, of which we have spoken. The colours are ground in water, and diluted with gum water mixed with white, so that, in such painting, there may be a coloured background; the lights are put on in successive layers, and the artist covers the whole surface of his picture. In aquarelle, on the other hand, the white

of the back-ground is reserved for the lights of the picture. For this, ivory has been found to be the best kind of material on which to work, possessing a transparency of texture, and producing a peculiar softness of effect in the painting, especially in the carnations. The back is always protected by something as perfectly white as possible, for anything dark would show through it. Usually the piece of ivory is quite small, such as can ordinarily be obtained; but when larger pieces are required, the elephant's tusk is sawed around its circumference, and the ivory steamed and flattened by powerful pressure, and then mounted for use. In this way plates have been obtained as large as 18 by 20 inches.

We cannot, in conclusion, better state the true character and correct work of miniature painting than in the language of M. Blanc in his delightful book "*La Grammaire des Arts du Dessin*." If art were a simple imitation of the true, every representation in miniature would be proscribed, because it implies a contradiction between the distance the smallness of the image supposes, and the careful finish that destroys the idea of the distance. Happily art is something besides imitation of the real; it is a beautiful fiction which gives us the mirage of truth, upon condition that our soul shall be the accomplice of the falsehood. It is an error, then, to suppose that the miniature painter should treat his little figures as if they were sunk in the picture, separated from us by successive layers of atmosphere, and that he ought to make them seem afar off by reason of light and aerial colour. Nothing would be more insipid than a vaporous execution that would allow what we hold in our hands to vanish from our eyes. Taste counsels happy trickeries which strongly interest us in the essential features, leaving the rest out of sight. Upon the ivory of the miniaturist, as well as the intaglio or cameo of the engraver, art ought to express much with little. Since the artist must insist upon that upon which expression depends, let him content himself by "putting in evidence" the great features and gliding over the rest; he will exclude all that is useless, but in compensation will strongly express what is decisive.

THE COMPLETION OF ST. PAUL'S.

MR. J. T. MICKLETHWAITE, F.S.A., has "a Note" on this subject in the last number of *Notes and Queries*, from which we extract the following;—

When we are going to alter an ancient building, the matter ought to be examined from three aspects, namely: The historical, the practical, and the æsthetic. (1.) The historical question ought to be a very simple one at St. Paul's, which is the result of one effort, not the growth of many centuries, as are most of our other cathedrals; but during the late controversy it has been not a little obscured. First, there has been the strange doctrine, very generally received, if not openly expressed, that St. Paul's, being a classic and post-Reformation building, is not of the same historical importance, or entitled to the same respect, as are the Gothic and pre-Reformation cathedrals. But the truth is exactly the other way; for deplorable as would be the loss of any one of our Mediæval cathedrals, it would be less than that of St. Paul's. They are many; it stands alone.

Next there has been a cloud of misunderstandings about the intentions of the architect: not the least of these has been the extraordinary assumption that where any record, even by hearsay, exists of the architect ever having had any idea on any matter which differs from what is found in the existing building, then such record, and not the executed work, is to be taken as representing the architect's matured judgment on that matter. One would have thought that the existence of any such sketch, model, or report, so far from justifying any alteration in the fabric to agree with it, is a proof that the idea embodied in it was carefully considered and deliberately rejected by Wren. Yet, on the strength of an old story, which, if true, proves no more than that he thought the organ too large, we have heard the destruction of his screen defended as being in accordance with his own wishes; and quite recently, on the authority of an old sketch, a less important, but perfectly unnecessary, alteration has been made in the steps at the west end. Nay, further, because Wren is known to have searched for some blocks of marble, which he failed to obtain, it has even been argued that the just-abandoned scheme for marbling the interior was in accordance with the intentions of the architect. Though how it was discovered that he "intended" to inspire himself from "the best artists and architects of the sixteenth century," as Mr. Burges was directed to do, is more than I know. And, lastly, because the extant model, commonly called Wren's first design, shows a smaller dome as well as the large one, Mr. Fergusson proposes to carry out Wren's intentions by pulling down the choir which he built and building a second dome on its site. It is a great pity Wren is not allowed to speak for himself. Surely what he did is, so far as it is itself concerned, tolerably safe evidence as to his intentions.

But other influences besides the intention of the architect were at work in the designing of St. Paul's. Wren's intentions are in a manner historical only so far as he carried them out; and even if we had perfect data to work upon, which we have not in any one case, to set up now as his what he was prevented from setting up in his own time would be a kind of historical forgery. If we want to know Wren's own ideal of a cathedral, we can find it in the model just named; but in the existing building we have, or rather had before the alterations, what is much more important, namely, Wren's formulation, if I may use the word, of the then prevailing opinions on the subject. The Mediæval plan is just as characteristic of St. Paul's as the dome is.

The history of a building in use is not confined to the period of its erection, but is progressive; and if not deliberately falsified, as unfortunately has been lately very much the fashion, is itself the record of its own life. This it is which gives such a living interest to our old churches; and if we value it, as most of us at least pretend to do, it behoves us not only to preserve but to continue it. If work has now to be done, let it not be what we fancy might, could, would, should, or ought to have been done two, three, four, or five centuries ago, but that which will best serve our purpose and satisfy our taste and sense of propriety now at this present

time. In short, we must treat our buildings as our Mediæval ancestors did theirs, but with this one important difference—they, except in rare instances, entirely disregarded past history; we, who have learned its value, ought to be most careful to preserve it. Thus, in the case of St. Paul's, or any building not needing structural repairs, we may alter what is there just so far as is necessary to fit it to our own uses; we may add what is not there to any extent we please, so long as what we introduce is good of itself and appropriate to its position; but we must not take anything away if it can possibly be retained.

(2.) Now let us look at the matter from the practical point of view. Wren was, as has been said, compelled by the public opinion of his time to adopt a Mediæval plan. That he did so against his will is nothing to the point. Having accepted it, there is every cause for believing that he endeavoured to interpret it in the best possible manner. The most notable feature of this plan is the choir entirely fenced off from the rest of the church, and fitted up for services intended to be confined to it, thus differing altogether from the parish chancel, which is intended to be used with the rest of the church, and is separated from it only by open screen-work. The most important alterations hitherto carried out at St. Paul's have had their origin in an attempt to substitute the latter arrangement for the former. By the abolition of the organ-screen, and the removal of all the old fittings, the eastern limb of the building has been made into a sort of enormous chancel, and the whole plan made to resemble as nearly as possible that of an overgrown village church. This has been done, no doubt, with the very best intentions; and if the desired result had been obtained, and the usefulness and convenience of the building much increased thereby, that might have justified the great liberties which have been taken with the original plan. But the church as altered is as awkward and ill-contrived as could well be, and, in fact, only suitable for those Roman Catholic services where it is not thought important that the congregation should hear or see what is going on, they being guided to their own share of it by the ringing of a bell. The chancel, professedly reserved for the clergy and choir, is vastly too large for the ordinary numbers, and its long narrow form does not give facilities for the convenient and effective massing and control of the very large bodies of singers and instrumentalists which have occasionally to be accommodated. This chancel only communicates with the people's part of the church through a comparatively narrow arch, and that is partly blocked up by the organ, the position of which, between the choir and the people, is almost the worst which could have been chosen. The altar too is remote and insignificant, being visible to but a small proportion of the congregation, and over 150 feet away even from the nearest of them. And all those who are in the chancel, numbering perhaps nearly a thousand, are behind the pulpit, and, except it may be a few at the west end, are beyond the range of any preacher.

Now, methinks, it was scarcely worth while to destroy Wren's screen and choir to produce this state of things. The old arrangement was good of its kind, and at least had history on its side; but it is urged that it only made use of one, and that not the larger part of the building, and that the remainder ought not to be wasted. True; but it was surely possible to use one division without destroying the other. The impossibility of satisfactorily uniting them ought to have been seen at the beginning; and now that at great cost its futility has been demonstrated by actual experiment, the attempt ought to be abandoned at once and for ever. Let Wren's choir be replaced in its old state as near as is now possible, let his screen and the organ over it be re-erected, and then let us do our best to turn to account the other division of the church.

If the dome-area, nave, and transepts are to be used for public worship, they must be furnished for public worship. They must have their own altar, pulpit, choir accommodation, and organ. Into the details of this arrangement I shall not now enter, having already discussed them at length in a pamphlet which may be read by any one who wishes to follow the subject up. But I will just point out that this furnishing of the part of the church, which Wren left empty, besides meeting our wants best, is a matter of addition only, and therefore, as we saw just now when looking at the matter historically, cannot possibly do any harm, and may add very greatly to the value of the building.

Although, for myself, I regard the precedent of Mediæval church arrangement as practically valuable only so far as it may suggest to us the best ways of meeting the requirements of our own time, yet as there are many who attach a much greater importance to it, it may be well to show that such authority as precedent gives is entirely in favour of the treatment I am advocating. We are so accustomed to seeing our cathedral naves empty and unfurnished that we have quite overlooked the fact that they were not always so. The old churches with enclosed choirs were never without altars for public services in the naves. Sometimes there were side altars under the rood-lofts, but often much greater importance was given to the nave altar, and it stood centrally against its own reredos, somewhat westward of the choir screen. Unfortunately we have but one example of this reredos remaining, which is at St. Alban's; but there is documentary evidence of its existence at Canterbury and Durham, and good cause may be shown for believing that it also existed in other important churches, as York, Winchester, and Westminster. At Durham we also know how the singers were accommodated, and that there was a special organ for the service at this altar. We are not to suppose that these altars were removed upon any polemical grounds: the plain fact is that the naves were stripped of their furniture because they had ceased to be used. And now that we again want to use them, our proper course is to furnish them again, and not to hack and hew the churches about in the vain endeavour to make the furniture of the choirs available also for the naves. This attempt has not been made only at St. Paul's, but at half the cathedrals in England; and terrible has been the mangling of them which it has caused. The changes and chances of three centuries have left us very few of the old rood-screens, and even these are now falling victims one after another to the unthinking zealots who clamour for the "utilisation" of the cathedrals. The last case of this sort was at Exeter, where two great holes have been punched in the screen. They are too high up

for any one in the nave to see through, so that it is difficult to know what is gained by them. But when the fierce outcry of the screen-haters for the destruction of this screen is remembered, there appears some excuse for those who mutilated it, and who probably regarded what they did as the breathing of a vein, which was to save the life of the whole work. How much better it would have been had the Exeter authorities, instead of urging antiquarian objections only, and finally agreeing to an unsatisfactory compromise, met their assailants on their own ground, and shown how the church could be "utilised" much more effectually than by the destruction of the screen. Probably the only large collegiate church in England in which the distinction of choir and nave might, without objection, be ignored is Westminster Abbey, where there is no structural division, and the old choir fittings have long ago perished, and the modern ones are not worth preserving. The mere removal of the screen would do little good, and whatever might be done ought to be done very cautiously, but I think the combination might be made.

But to return to the case of St. Paul's, which it remains for us to consider (3) from the æsthetic standpoint. The duality of the church is so innate that it would be impossible to get rid of it by any process short of rasing the building to its foundations. The choir, though really large, is, by comparison, small, and the dome is so completely the climax of the building that its eastern extension has absolutely no architectural importance until it is centered and the dome left out of account. The first apartment distinctly ends at the eastern arch of the dome, and the eye instinctively demands some treatment of that part which will centralise and justify the whole. Wren, who regarded the first apartment chiefly as a grand approach to the second, very properly made it culminate in a stately entrance to the choir. This was his solid screen with the organ, which, notwithstanding all that has been said about them, were Wren's work, and, with all deference to his modern critics and would-be improvers, I really believe he knew what he was doing when he designed them.

Now we are not content with Wren's plan of making the greater part of the building only a vestibule to the less, and we wish to make it available for public worship. But to destroy the partition, and throw the two divisions into one, is to produce an architectural anti-climax quite destructive to all true dignity. The only rational course is to work the same way that Wren did. We must substitute for the choir door, the natural end of his vestibule, an altar, the natural end of the church, into which we would convert it. And Wren seems almost to have anticipated this arrangement, for he placed his screen so far back that the whole of the space between the great eastern piers of the dome may be given up to the new altar and its surroundings, and yet there would remain a sufficient approach through the aisles to the old choir door east of it.

I have now discussed the question in its three possible aspects, and have endeavoured to show that in each of them a satisfactory result can only be obtained by the restoration of the old choir and the separate furnishing of the dome space; and I contend that, unless these are accepted as the basis of all future work, we must not hope ever to see a satisfactory "completion of St. Paul's."

DISCOVERIES IN ROME.

AN occasional correspondent of the *Times*, writing on December 27, gives the following account of the recent discoveries of sculpture in Rome:—

Simultaneously with the delineation of the "ruling plan" for the transformation of the Ecclesiastico-Medieval city of Rome into the modern capital of an United Italy, the Roman Municipality established an Archaeological Commission to watch over the interests of science and art wherever the new building operations might be prejudicial to them. As the appointment of the members of the Commission rested with the Municipality, altogether apart from and independent of the Italian Government, those archaeologists whose political convictions were in favour of the old state of things felt no hesitation in taking part in it, and thus all the leading men—the Viscontis, De Rossi, Lanciani, Rosa, Vatalleschi, and others—were brought together. They set to work with great energy, divided the city into sections, appointed an overseer to each, and wherever, for whatever purpose, the modern level was disturbed, men were set to watch for any discoveries, whether of portions of ancient edifices or objects of antiquity, and immediately report them to the Commission. Whether the land to be built upon belonged to the Municipality or, through expropriation, to the Government, all rights regarding objects discovered were reserved; and when the land was the property of private owners, the law prohibiting the export of ancient statues which might be found, and giving a priority of right to purchase to the authorities, was put in force. At the same time, also, power was given to the Commission to temporarily suspend the progress of any building operations wherever important discoveries, of whatever nature, might necessitate more complete exploration.

The accumulation which covers the level of the ancient city has always proved so rich a mine that great anticipations were formed as to the possible result of the measures adopted; but three years have passed without any very important discovery being made, apart, of course, from the excavations purposely undertaken on the Forum, in the Baths of Caracalla, the Colosseum, and other places, and even they have been singularly barren of sculpture of any particular value. Fragments of statues—mutilated heads, battered torsos, hands, feet, broken arms and legs, and pieces of drapery

without number—have been found. Upon the Esquiline, an old boundary wall was discovered entirely built of pieces of ancient sculpture, statues, busts, and *bassi-relievi*, which had been smashed to pieces for the purpose; but with the exception of a few works which can scarcely be called more than interesting, no really valuable additions have been made to the art treasures of Rome. Had I written a week ago upon the results of the extended explorations, consequent upon the foundation of the new city upon the Esquiline, and the alterations going forward in the old city on the Campus Martius, all jealously watched over by the Commission, I should have added, there seems but little probability of any more statues being disinterred, at least until the almost virgin district around the Porticus of Octavia, buried in a network of squalid streets, is explored. Almost every spot available for excavation has been ransacked for sculpture at one time or another since the middle of the fifteenth century. The hundreds of statues in the Vatican, Capitoline, and Lateran Museums, the Greco-Roman collection in the Louvre, in the British Museum, and in the museums in the other chief cities of Italy and throughout Europe, the contents of the many private collections in Rome and elsewhere, show, when taken together, what a world of art has been discovered since that time; and when we also consider the revolutions made by the many lime-kilns discovered in Rome, with fragments of sculpture lying around them, proving that hundreds, if not thousands, of statues, many of them priceless works of Greek art, were burnt into lime to provide mortar for the modern city, we might almost conclude that there is little chance of anything else being found.

But there appears to be no limit to the wealth of art buried beneath the ruins of the ancient city. On Tuesday last some of the workmen employed in clearing away a quantity of fallen walls and *débbris*, for the purpose of levelling the newly marked out streets upon the Esquiline, split off a mass of earth with their wedges, and as it fell, out rolled a female head of great beauty. The cleanness of the fracture across the neck, and the indications that the place had never been disturbed since ruin covered it, at once aroused expectations of finding the remainder of the statue or bust, whichever it might be. The Archaeological Commission immediately set its men to work, and within a short time a second head—the portrait of a man—was found, then the beautiful nude body of the first, and directly afterwards its legs and plinth. A new Venus of the purest Parian marble had been discovered. By this time it was dusk, but the men had become too excited to think of leaving off. Of their own accord they got torches, and continuing their work on into the night, found a bust of Commodus altogether unique in art.

On the following morning a draped female portrait statue broken across a little above the knees, but without the head and neck, which had been sculptured separately, to fit into the drapery, was first discovered; and then two statues of Tritons, as far as the human portions of the monsters were concerned—that is down to the hips. They had not been broken off at that point, but were terminated in such a manner as would lead to the inference that the tails were originally of bronze. Next the head of another Venus was found, and immediately afterwards a considerable portion of a semi-colossal statue of Bacchus, which would also seem to have been formed of different materials. The portion discovered consists of the head, the right arm, and the whole of the front of the body down to the hips. The back was evidently cut away at the time when the work was sculptured, in order to fit it into the drapery, which was probably of bronze. The left arm, broken off at the shoulder, has not yet been found. On Thursday morning a second draped female statue was discovered, of which, like the first, the head and neck were sculptured separately to fit into the drapery; then two male legs, which, from the similarity of the marble to that of the head found on the first day, probably formed parts of the same statue; and lastly, so far as the excavation has been carried, the heads of the two draped female statues—in all, six statues, a bust of Commodus, a head of Venus, and a male portrait head and two legs, apparently portions of the same statue.

The gem of these pieces of sculpture, all found together within the space of a few square yards, is the Venus, as it is called. Its only claim, however, to be considered a representation of the Paphian divinity consists, like that of the Capitoline Venus, in its being perfectly nude; but instead of being a statue of a fully-developed woman, it is that of a lovely girl of seventeen. To use the words applied by Winkelmann to the Venus de Medici, "it is like a lovely rosebud bursting into bloom," and might not inappropriately be called a Psyche, did not the style of art suggest an earlier period than the date of the fable. She stands with both feet upon the ground and close together, the left a couple of inches further back, with the heel very slightly raised. A moment before she was erect, but she has dropped into an easier position, with the left knee bent forward and inwards against the right. Her left hand is resting on the knot of hair at the back of her head, while her right holds the fillet she has already passed several times round it. In doing this she has swayed a little over and down to the right, bringing the left side forward. The shoulders are well set back, and the face is turned to the right and a little downwards, showing from the front a not quite three-quarter view. The result of this action is the most beautiful flow of line from every point of view. The modelling is perfect, the contours have that delicious softness given by the gradually-increasing fullness of approaching development, together with all the beauty, charm, and sweetness of youth, virginity, and innocence. Altogether it is the most perfect representation of pure, unconscious girlhood I have ever beheld. On the ground at her right is what appears to be a perfume box, ornamented with flowers like daisies, and upon it a slender kind of baluster, upon which her drapery has been thrown. This, of course, serves as the support to the statue, but does not intrude as closely upon the leg as the vase and drapery which support the Capitoline Venus. I may be somewhat unduly impressed by the first sight of this "thing of beauty," but I am inclined to think that it will take rank above the Medicean Venus. Judging from the execution, which is slightly unequal, and which, though good, is inferior to the beauty of the conception and modelling, there can be little doubt that the statue is a copy, but from a masterpiece. The marble, as I have said, is Parian of the rarest quality. The statue is broken across the neck, below the left and above the right

knee, and above the left ankle. The nose is slightly broken at the tip, and the right arm has not yet been found.

The bust of Commodus is in every way a most remarkable work. It is in reality, half a statue, with both arms; but it is hollowed out at the back as busts are, and stands upon a pedestal. He is represented as Hercules, draped in the skin of the Nemean Lion. The upper jaw rests upon the head, and projects forward like the peak of a helmet. The fore paws are knotted together upon the breast, and one of the hind paws hangs over the left arm. In the right hand he holds the club, resting upon his shoulder, and in the left the apples of the Hesperides. The pedestal, which, though broken into several pieces, was carved out of the same block, is a most elaborate piece of workmanship. It consists of a *clipeus*, or shield, like those carried by the Amazons, with eagles' heads at the points, and upon it a head of Medusa. Below this, and rising at each side of it, are curved cornucopias, placed like a St. Andrew's Cross, the lower ends passing on each side of a globe—below the shield—across which is a zone, with three signs of the Zodiac in relief—Taurus, Sagittarius, and Cancer—and on each side of these, acting as supporters, are kneeling statues of Victories, which, if standing erect, would measure about 15 inches in height. The work is not only completed with all that finish of surface which characterises many works of the Antoninian period of art, but has received throughout, with the exception of the hair, the highest degree of polish marble is capable of. It is scarcely an exaggeration to say that objects are reflected in it like a looking glass. Some portions of the lion's skin, which is undercut to excess, and the fingers of the left hand, are, like the pedestal, broken, but all the pieces have been found. The face, however, is perfect, and the nose intact. There can be no doubt that in this bust we have a speaking likeness of Commodus; the resemblance between it—bearded as he is represented—and his portrait as an unbearded boy in the Capitoline Museum is most striking. There is the same narrow, contracted brow, the same heavy upper eyelid, and the same half-imbecile, half-brutal expression. The likeness, also, between this bust and those of his father is most remarkable, with just that difference which indicates how unlike the men were in character.

The Tritons are fine, masterly works in the best style of the Antoninian period, full of life, expression, and animation. They evidently formed a pair, for the action of one is reversed in the other. Each had one arm extended, and these are wanting from the shoulder; the others are broken at the elbow. Their hair is bound with fillets, and stands out around the brows in great radiations of thick, massive curled locks, not unlike the arrangement of that of the Apollo Belvedere, excepting, of course, the knot on the top of the head. On their eyebrows, cheeks, and following the lines of the principal muscles of the body are leaf-like scales. On the hair of these statues there are considerable traces of gilding.

The Bacchus is represented with all the more feminine characteristics of that divinity. His hair is bound with ivy leaves and berries, and he is reclining backwards with the right hand resting on his head, which is turned aside to the left, in an attitude of sensuous, voluptuous repose, the upper eyelids half closed upon the pupils, which are incised, as are also those of the Tritons and the bust of Commodus. The left arm is wanting, but, what is so rare in antique statues, the nose is perfect. This statue may with certainty be attributed to the time of Hadrian.

The two draped female statues are both portraits of young women; one is a girl of about 18, with a sweet, delicate face, very English in character. They belong to the same period of art, but the drapery of the younger is so charmingly arranged that the sculptor must evidently have followed that of some earlier work. She wears the long thin *Chiton*, with buttons down from the shoulder to the elbow. Her *peplon* is wound closely round her and over the left arm, which is extended downwards and back away from the figure, the hand holding the folds by which it is half covered. She is stepping somewhat aside to the right, while her face is turned back in the same direction, with the extended arm to the left.

The separate head of a Venus of the more mature type is pretty, but not remarkable; the hair is all gathered upwards into a knot upon the top of the head. The two separate legs I have mentioned as probably belonging to the same statue as the head found on the first day are not fractured, but above the knee of each the marble is so peculiarly cut as to indicate that they were fitted into some other material, probably bronze drapery. The sandals, which bear traces of colour, are most carefully wrought, and the thongs descending from the insteps towards the toes are undercut to an extent which almost detaches them.

These statues have been found among the ruins of an ancient edifice situated within the limits of the Villa Palombara, on the right-hand side of the road leading from St. Maria Maggiore to St. Croce in Gerusalemme. It was in the grounds of this villa that the celebrated Discobolus by Myron, now in the Massini Palace, was discovered in 1781, and many other works at different periods since. It must also have been about this spot that the celebrated series of statues of Niobe and her Children, now in Florence, was found, and how rich the place must have been in sculpture is additionally proved by the boundary wall I have mentioned, discovered close by, built entirely of fragments of statues. The place where these have now been found is not yet completely excavated, but the work is being carried on rapidly, with the hope of making other discoveries.

The Magic Inkstand.—We have deferred noticing this invention until we had a fair opportunity of testing its merits. We do not profess to vouch for the inexhaustibility of the bottles, although on the other hand we are not in a position to doubt that the supply may endure for a century. But if a trial of some months without failure of any kind may be accepted as a test, we can recommend the inkstands to the public. The ink produced is always of good colour, limpid, and for certain descriptions of paper answers better than the common ink. To all writers the invention is a convenience, but more especially for travellers. Our remarks must, however, be taken as applying only to the inkstand introduced by Messrs. Sampson Low & Co.

ILLUSTRATIONS.

NEW LECTERN, ETC., YARMOUTH CHURCH, ISLE OF WIGHT.

WE give illustrations this week of a lectern and cover of one of the books lately presented to Yarmouth Church, Isle of Wight, in memory of the late Mr. SAMUEL FISHER, the patron of the living, the lectern being the gift of his daughter and sons (one of whom is the present rector), and the books that of his eldest son, Mr. S. T. FISHER. The lectern has a revolving double book-rest, on one of which is placed the memorial inscription, with ornamental engraving. The base, shaft, and top are of wrought-iron, elaborately worked in hammered scroll and flower work, the supports of the base being formed by strong wrought-iron bands, terminating in feet beaten out of the solid metal, the whole bound together by a circular band of scroll work of early character of design. The ends of the rest or vertical faces are very elaborate in design, the greater portion being of *repoussé* work, enriched with jewels, and displaying the cross and emblems of the Four Evangelists in white metal. The general surface of the shaft and scroll work is burnished to a gun-barrel brown colour, the desks being made in gilding metal to harmonise with the rest of the colouring.

The Old and New Testaments are bound in morocco of a golden brown colour, and finished with metal bands, corners, and clasps; each volume being differently engraved with various sacred subjects, in the centre of each, on one side only of the cover is a large jewelled cross. The lectern and books have been carried out in a most satisfactory way by Messrs. HART, SON, PEARD & Co., of Wych Street, Strand, from the designs of the architect, Mr. ROBERT W. EDIS, F.S.A., of 14 Fitzroy Square, W.

UNITED INSTITUTE FOR THE INDUSTRIOUS AND INDIGENT BLIND, DEAF, AND DUMB AT LEEDS.

THE accompanying illustration is a sketch of a building about to be erected in Albion Street from plans prepared by Mr. EDWARD BIRCHALL, of Leeds. The front part consists of two shops on ground-floor, with an entrance for the deaf and dumb to their Institute over. One shop is for the sale of baskets, brushes, &c., made by the blind, upon extensive premises to be built behind and two storeys high. The other shop will be to let off, with fine cellar accommodation. The Institute for the Deaf and Dumb consists of a large room 54 feet by 24 feet, divided by removable screens into class-rooms and library. Adjoining are cloak-rooms and lavatories for the males. A large house at present on the premises is to be adapted and accommodated to schoolrooms for blind children and other purposes. The cost of alterations and new buildings will be a little over 5,000*l*.

TOWER OF ST. ANTONIN, PAMIRS.

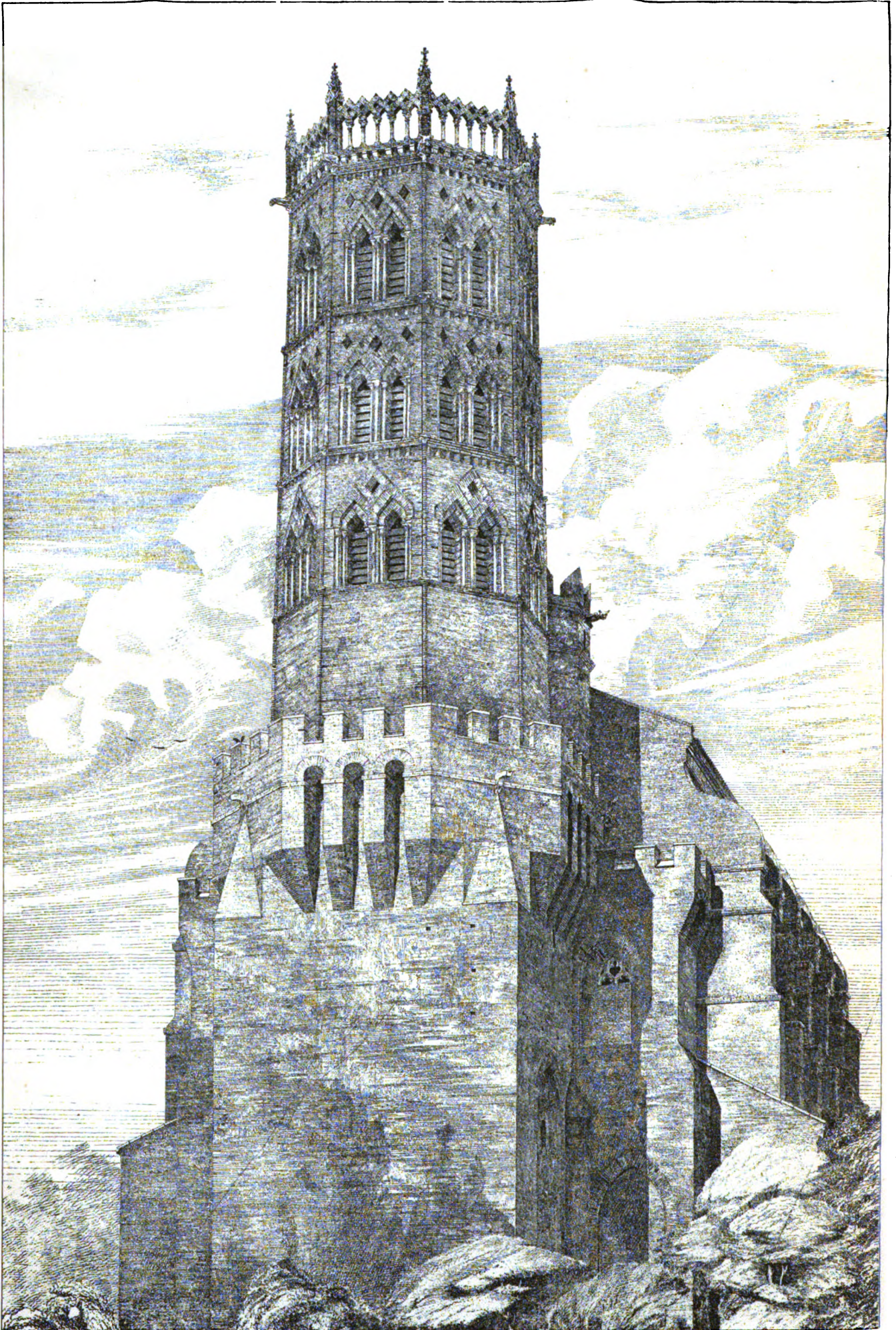
PAMIRS, which is situate between Toulouse and Foix, boasts itself as having been the earliest seat of Christianity in the Eastern Pyrenees district. Recluses settled here in the tenth century, founding the monastery of Frédelas before the year 980. The origin of the name, Pamiers, is enveloped in some doubt. One story is that when ROGER II., Lord of Foix, built his castle here on his return from the Holy Land, in 1124, he gave it the name of Appamia in memory of the town of that name in Syria, whence he had brought reliques. In the *Histoire Générale du Languedoc* Pamiers is said to have sprung from the castle of that name, the village of Frédelas, and two other villages, which having increased in size, formed but one town. In 1208 it was sacked by the Comte de Foix, who had espoused the cause of RAYMOND of Toulouse. Nevertheless, later on in the same century, it became so prosperous as to be made an episcopal see. In the sixteenth century the Protestants under the Prince de CONDE took the town and ruined the churches, and the cathedral appears to have been in a most melancholy state until the time of LOUIS XIV. MANSARD, who then rebuilt the rest of the church, fortunately spared the magnificent western tower. It has, however, been recently restored.

The drawing from which the illustration was taken was in the last exhibition of the Royal Academy.

DESIGN FOR MIDDLE-CLASS SCHOOL AT HACKNEY, FOR GROCERS' COMPANY.

WE give this week a design submitted in competition for the Grocers' Company's School at Hackney, under the motto "Simple." The materials proposed for the exterior were red brick, with Bath stone dressings, mullions, &c., and Broseley tiles for roofs. The author of the design is Mr. W. C. BRANGWYN, 6 John Street, Adelphi.



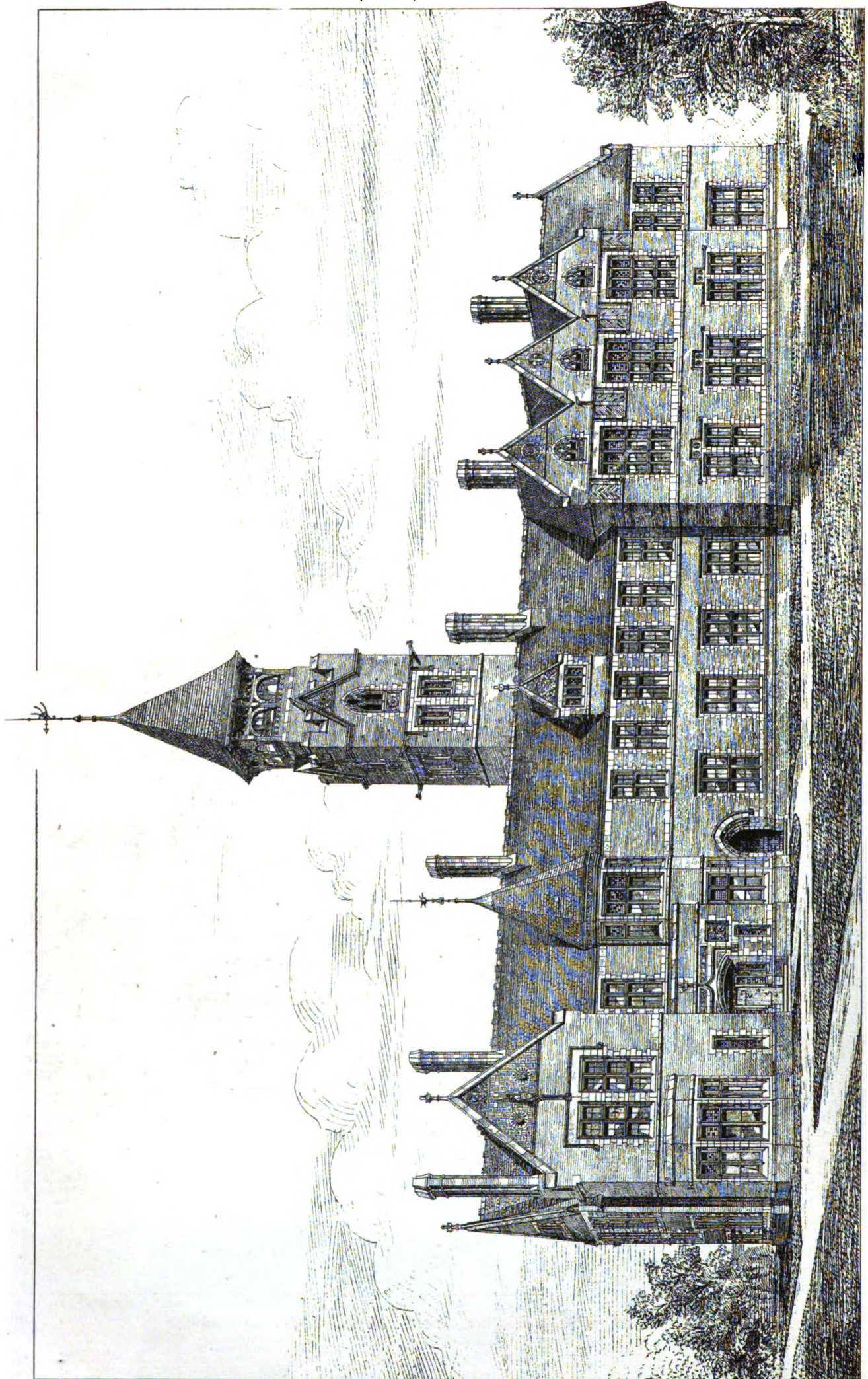


Printed by W. W. Springer & Co. London & C.

CATHEDRAL TOWER OF ST ANTONIN, PAMIRS.

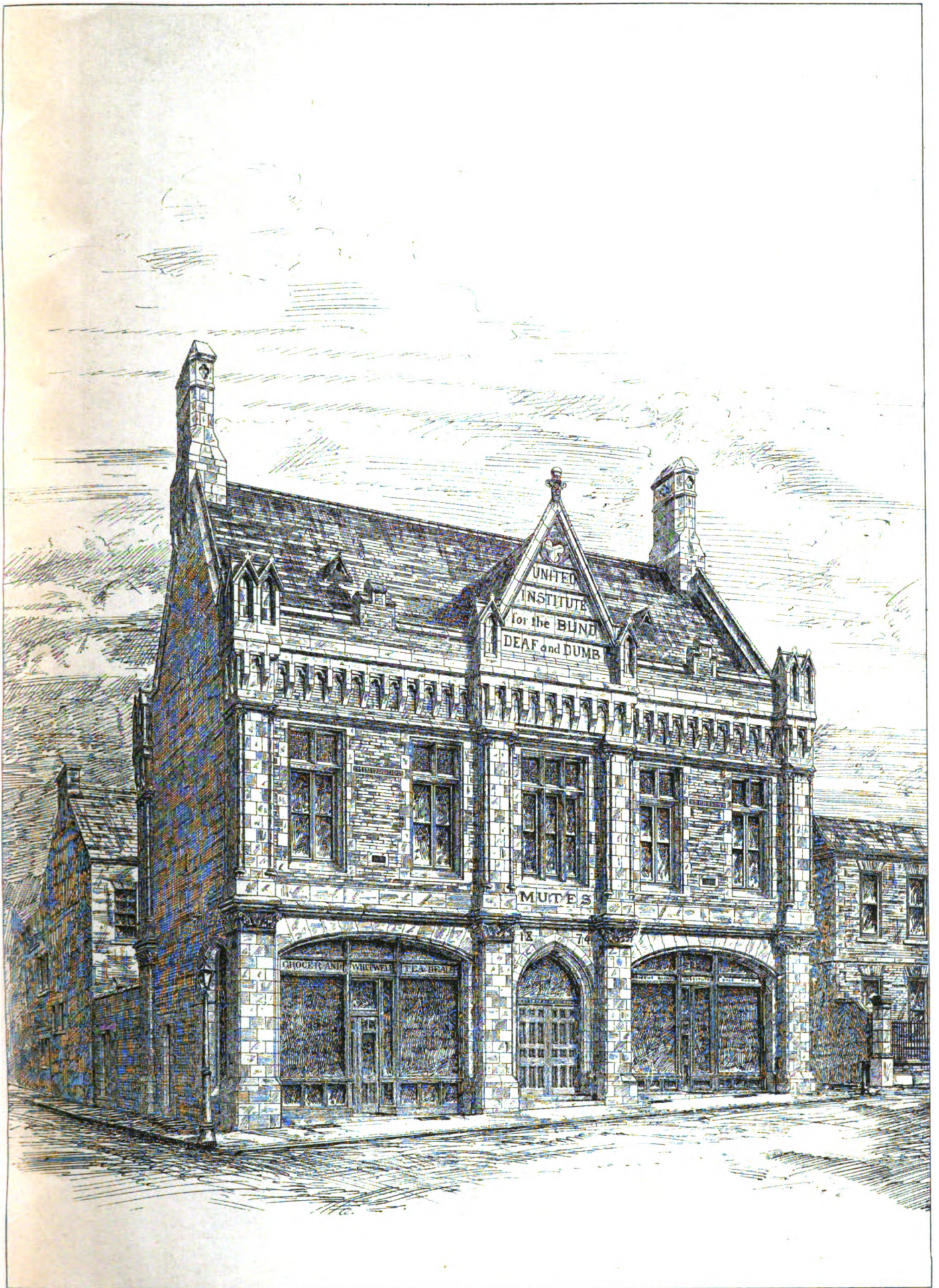
DRAWN BY F. C. DESHON.





DESIGN FOR THE GROCERS COMPANY'S SCHOOLS, HACKNEY.
BY W. C. BRANCWYN.

Engraved by W. G. G. & Co. London E.C.

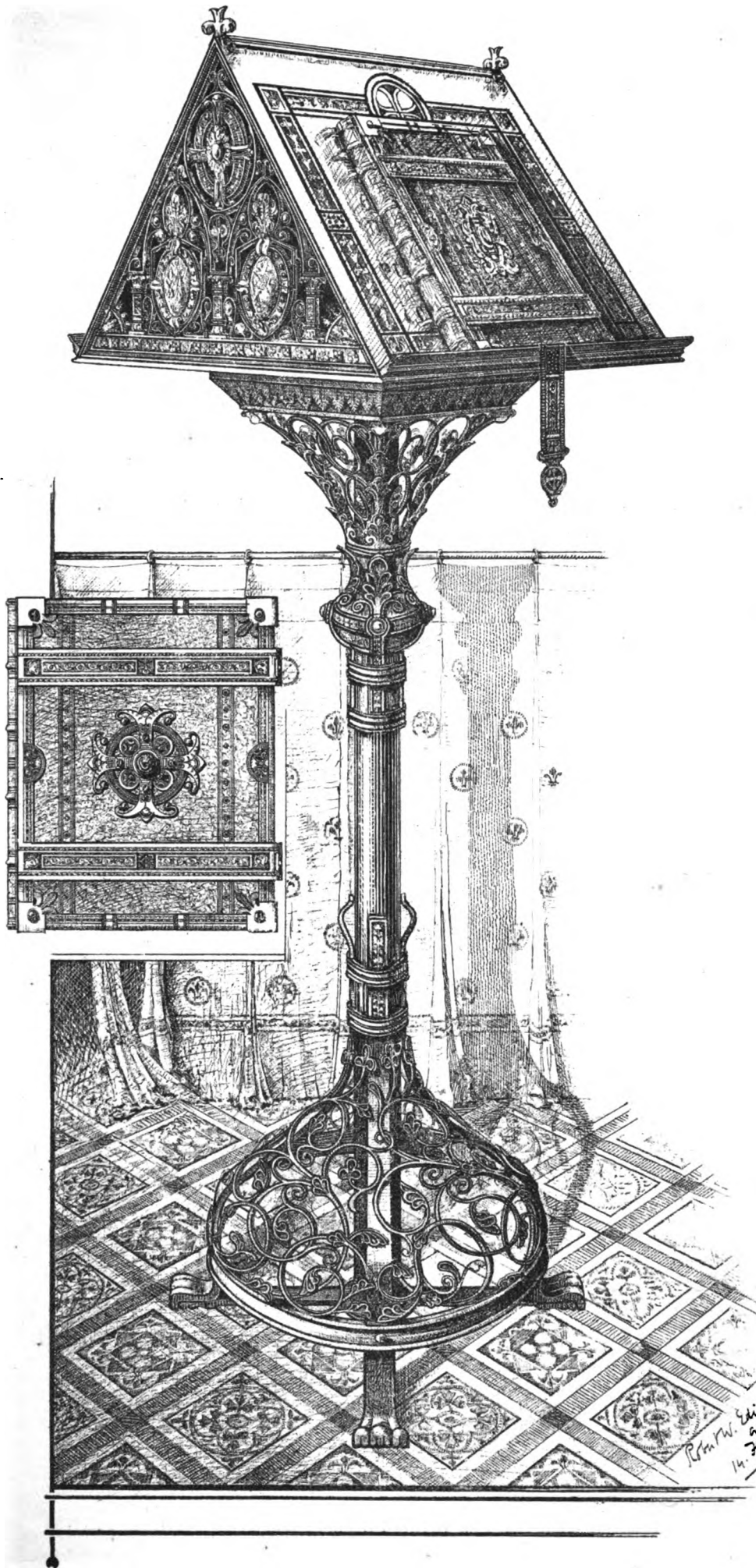


Printed by W.W. Symonds & Co. London. E.C.

UNITED INSTITUTE FOR THE BLIND, DEAF AND DUMB, LEEDS.

EDWARD. BIRCHALL. ARCHITECT.





DESIGN FOR A LECTERN.
BY R. W. EDIS, F.S.A.

Printed by W. W. Spanglow & Co. London, E.C.



ROYAL INSTITUTE OF BRITISH ARCHITECTS.

An ordinary general meeting was held on Monday evening, the President, Sir G. Gilbert Scott, being in the chair. The death was announced of Mr. Richard Bell, 22 Walbrook, Fellow; and Mr. Hayward stated that he had also just heard of the death that morning of Mr. Henry E. Kendall, past Vice-President of the Institute. He believed that Mr. Kendall was one of their earliest members, and might be called the father of the profession. Several donations were announced, including the pedestal of Sir Charles Barry's bust, which Sir Gilbert Scott stated had been very kindly presented by Mr. John Gibson, Vice-President. The thanks of the Institute were awarded to the respective donors, particularly to Mr. Gibson, whose gift was much appreciated. Several newly-elected members were introduced, amongst them being Mr. J. T. Wood, who is shortly to read a Paper on the Temple of Diana at Ephesus, and the President expressed his gratification in welcoming a gentleman of such distinction, and whose researches had been so extensive.

Mr. JOHN J. STEVENSON read a Paper on

The Architectural Profession.

Mr. Fergusson, in his able and interesting History of Architecture, expresses the opinion that the system of architecture for the last three centuries has been false, and that the works produced have been mere copies and shams, void of interest, and valueless, as compared with the products of the true styles which, till the Reformation, had prevailed in every country.

"The great change which was introduced at the Reformation," he says, "was this. A technic art came to be cultivated on principles which belong only to one of the phonetic class;" that is to say, architecture which is only the useful art of building elevated to a *fine* art, as "cooking may be refined into gastronomy and tailoring into an important art without a name," came to be treated as if it were like poetry, painting, or sculpture, one of the phonetic arts, "merely different modes in which men's thoughts can be communicated to other men, or perpetuated for the use of posterity." In the technic or useful arts, those, for instance, connected with food, clothing, or shelter, progress has been slow and gradual. Each worker is heir of an accumulated experience, and so any mechanic can now make a better steam engine than Watt: "as in India, at this hour, local masons, who can neither read, write, nor draw, can design as beautiful buildings as ever graced that land." But in the phonetic arts, poetry, painting, sculpture, "the individual stamps the value." "We do not now find men writing better epics than Homer, or better dramas than Shakespeare. We do not see finer sculptures than those of Phidias, or more beautiful paintings than those of Raphael." "No one dreams," therefore, "of altering a poem or of improving a statue or picture, though they may be the production of inferior artists. But in the middle ages no one ever hesitated to rebuild the nave of a cathedral, or to add towers or chapels in the newest fashion to the oldest churches," just as "no Comptroller of the Navy ever hesitated to cut one of Sir W. Symond's ships in two, if by lengthening her he could improve her qualities." "No one has cared to record the names of the designers of the mediæval cathedrals; probably nobody knew who the architects were. The art was a true art; it was more difficult to do wrong than to do right now. No genius, however great, could then enable an individual to get much ahead of his contemporaries, while the most ordinary ability enabled anyone to do as well as the rest." But "the individual is now everything in architectural art, while the age is of as little importance as in a poem or a picture." And so "it would be considered sacrilege to meddle with or attempt to improve St. Paul's Cathedral out of respect for Wren" (I only wish it were so considered), "and Blenheim must remain the most uncomfortable of palaces, because it was so left by Vanbrugh." "The new system subjects art to the caprices and vagaries of individuals." "What a man learns in his lifetime dies with him;" "his successor has to begin at the beginning;" "their careers probably cross each other." "An architect in practice can never afford many hours to the artistic elaboration of his design," and hence "the remarkably small amount of thought that a modern building ever displays. The evil has been aggravated in modern times by architecture being handed over too exclusively to professional men who live by it, and generally succeed more from their businesslike habits than their artistic powers." In conclusion, Mr. Fergusson says that, "without a re-organisation of the whole system, we must be content to allow copying to the fullest extent, and must be satisfied with shams, either classical or mediæval, until at least the public are better instructed, and demand or initiate a recurrence to the principles that guided the architects of those ages when true and real buildings were produced."

I do not think it is a straining of Mr. Fergusson's opinions to say that his view is that, under the present system in which architects direct the construction of buildings, by means of drawings, good architecture cannot be produced, and that we should return to the system of the "true styles" when there were no architects in the modern sense, but the employer communicated directly with the workman who executed the work; in other words, that architects should be dispensed with.

These opinions of Mr. Fergusson have been re-stated in three articles in the *Quarterly Review*, entitled "The State of English Architecture" (April, 1872); "The Completion of St. Paul's" (December, 1872); and "The Hope of English Architecture" (December, 1874). In these articles the writer argues that in Greece, Rome, and mediæval England (which last, with more patriotism than accuracy, he says, was "for six centuries the finest scene of architectural display that the world ever saw"), as well as the Continent, architecture was produced, not by architects directing workmen by means of drawings, but by men who, while working with their own hands, had a charge of their fellows as foremen or master-workmen. He quotes numerous cases in proof of this from Mr. Street's book on Spanish Architecture, in a tone which seems to imply that he covets Mr. Street of inconsistency in relating them and yet continuing to practise as an architect on the system now prevalent. His latest article concludes as follows:—"Such was the master workman of the past,

whose free imaginative power has ever been the life of art; and in like manner the emancipated workman, gloriously 'impelled,' must always be, and is, the only real hope of English architecture." He expresses his hostility to architects unrestrainedly. "These eminent persons," he says, "have been the bane of art for the last three hundred years." Again, he calls them, "A spurious, we had almost said a quack, profession;" and again he says, "There will then be no need of the 'profession,' and architects will subside into their proper places as bookmakers, artists, business men, students of symbolism and archaeology, and, in fact, pupils and illustrators of those very workmen whom they now profess to direct and to control."

The reiterated publication of such opinions on high authority is a challenge to architects to show reason for their existence, for Mr. Fergusson is without an equal, in his peculiar province, as a writer on the various architectural styles. If these opinions be well founded, let us as architects, by all means, perform with what dignity remains to us, the happy dispatch; and withdrawing from the practice of an art whose true progress we are arresting, give place to our worthier successors, the builder and the British workman. But before doing so, we may be permitted to examine the justice of our sentence.

The opinions above recited assert or imply not only that in the best times of the art architecture was produced without architects, but that this is the only right way of producing it. If they have any practical meaning, and are to influence the conduct of any one in the present day who is thinking of building, they amount to an advice to him not to go to an architect for his plans, but to work them out himself with some intelligent foreman or builder.

In proceeding, Mr. Stevenson said: That we as architects should oppose this new teaching is to be expected, and I think is right; but there is a risk that our opposition may not make so much impression as we could wish on the public. I do not think, however, that there is much danger of the suppression of the architectural profession. It will certainly, at least, die hard. The public certainly cannot do without us if they want something better in art and building arrangements than the builders unaided have been giving them in these miles of houses growing up like mushrooms in all our towns.

We might admit as true all that Mr. Fergusson and the reviewer say as to the difference of the modes in which architectural works were produced in former times and now; we might admit the reality of Mr. Fergusson's distinction of architectural styles into false and true, though not, perhaps, approving of his nomenclature; we might even admit a just dissatisfaction on the part of the public with the results of our late efforts in architecture (and we were told on good authority at our last meeting, that the public are not satisfied with us), and yet be under no constraint to acquiesce in the conclusion that architects should be abolished, and that it is to the working men we should turn our eyes for light and guidance.

Mr. Fergusson's condemnation of us is that since the Reformation architecture has been conducted on a false method; that whereas it is a "technic" art, it has been treated as if it were a "phonetic" art, like sculpture or poetry; and that, instead of developing by a natural process of evolution, it has been under the control of individuals.

I do not think the terms technic and phonetic are happy. To say "technic art" seems tautological; "phonetic," implying sound or speech, does not properly describe painting or sculpture. This is, perhaps, of little importance, but the distinction itself has no existence in reality. The arts which Mr. Fergusson calls "phonetic" do not arise out of the gift of speech, as Mr. Fergusson asserts, but are rather substitutes for speech. He seems to have classified the arts as technic and phonetic, putting aside the familiar distinction of the arts as useful and fine, in order to avoid classing architecture as a fine art with painting and poetry. But in truth the distinction among these arts does not lie in the subject matter of the art, but in the manner of treatment. Any useful art may become a fine art by having added to it the element of *fineness*—of beauty of colour or form, or of expression, that is, any element making it the vehicle of human feeling or emotion, such as tenderness, gladness, solemnity, or even, perhaps, mere refinement and perfection in work. "Every useful art," Mr. Fergusson says, "is capable of being refined into a fine art."

Architecture is not only a fine art, but it is included in Mr. Fergusson's definition of the "phonetic" arts, being one of the noblest and most lasting modes by which men's thoughts can be communicated to other men, or perpetuated for the use of posterity.

Now, one of the results of an art developing into a fine art is that, the art expressing the personal emotions and feelings of the artist, we come to have an interest in his personality. We resent the alteration and interference of others, as destroying the value of the work—the art becomes individual.

Observing that this, at least, was the case in our present state of society and civilisation, although in certain states of society we find arts flourishing in what may be called a traditional manner, Mr. Stevenson went on to say that the arts thus handed down are understood by the whole community, and seem the expression of the national character. Their progress is slow and gradual, and we can treasure it only by comparing the productions of the art at long intervals of time. This is what Mr. Fergusson means by a "true" style of architecture. But he is in error in saying that architecture in being so practised differs from poetry and other arts, for in these arts, in primitive states of society, we find the same state of things—we cannot recognise the individual inventor in poetry and sculpture any more than in architecture. They are lost in the community, or in a school of poets or sculptors, handing down a tradition. In them, as in architecture, the age seems everything, the individual little or nothing.

Noticing the progress of civilisation and the various developments and changes we are continually witnessing, Mr. Stevenson said: And this is the age in which Mr. Fergusson tells us to return in architecture to those ways we gave up three centuries ago. He might as well tell the dead to rise. His book, "A History of Architecture of all Countries, from the Earliest Times to the Present Day," is of itself proof that we have emerged from the state which conceives traditional ways to be the only possible ones;

that we can appreciate new and foreign ideas which, if they seem better to us, we are sure to follow under the guidance of their originators, and not of common workmen who do not understand them.

We see, therefore, that there is no ground, in fact, for Mr. Fergusson's division of arts into phonetic and technic, the first produced by individuals whose names we know, the latter anonymous, transmitted by tradition, and, therefore, he thinks, advancing by the slow improvements of ordinary and unknown men; that, on the contrary, anonymity and transmission by tradition has been at certain times a condition of all other arts as well as of architecture.

Equally erroneous is Mr. Fergusson's assertion, on which depends his division of the history of architecture into two markedly different periods, namely, that till the Reformation the so-called true system everywhere prevailed; and that since then, throughout Europe, the so-called false system has prevailed.

It is no doubt true that most of the old styles of architecture, especially those which continue, as in India, to the present day, were practised during long periods as traditional styles by common workmen, and continued gradually progressing without any great originality, or such change as to be marked by the names of the architects. But I think it can be shown that this is not true as regards the rise of Gothic Architecture. It arose in France in the building of the great cathedrals, in a period of remarkable social and mental activity; when the towns threw off the fetters of the feudal system, and gained their liberties and the right of having walls, an outcome of that Renaissance within the Middle Ages, which produced the free thought of Abelard, the love poetry of Provence, the new music of rhyme. The rise of the new architecture was rapid, the whole of the French cathedrals being built and left almost as we find them within a period of eighty years.

It was not a slow improvement of traditional ideas by unknown workmen. On the contrary, we find in it one of Mr. Fergusson's characteristics of a "false" style; we know the names of the architects. These seem chiefly to have been laymen, judging from their names and the layman's dress in which some of them are represented on their tombs.

After enumerating various instances of the employment of architects in the superintendence of works carried out during the thirteenth century, Mr. Stevenson mentioned the case of the Cathedral of Gerona, in Spain, where, in 1320, an agreement was made with a French architect, Jacques de Favaris, to superintend the works and to visit them six times a year, and which seemed very like our modern practice.

And not only (added Mr. Stevenson) have we documentary evidence that the design of these buildings in each case was the production—or, at least, under the control—of an architect superintending every part of the work, from the foundation to the furnishing, but the buildings themselves prove it in their structure, from their unity of design, and from the admirable adjustment of the various parts to one another—a result which in a new art rapidly developing, and before its principles were settled, could not have been attained by a mere understanding among hosts of workmen, though it might perhaps be possible in a fully developed art with established principles and traditional modes of work, as, indeed, was the case later in Gothic art—the various trades without an architect to direct them working harmoniously enough together at the sort of buildings they were accustomed to, though this system might fail, as M. Viollet le Duc shows in the restoration of Rheims Cathedral after the fire in the reign of Louis XI., when the building and its architecture was strange to them.

I think, therefore, there is ground for believing, contrary to Mr. Fergusson's statement, that, at the rise of Gothic architecture, buildings were designed by architects having much the same functions as the architects of the present day.

And more easily can it be shown that the second part of Mr. Fergusson's statement is erroneous, namely, that the so-called false system has prevailed throughout Europe since the Reformation to the present day; for the evidence of the contrary exists everywhere round us.

In the fifteenth century in Italy, in the sixteenth in England, architecture again took a new start. Gothic had solved its problems, had reached the limit of height in cathedrals, the limit of twisting stone in tracery windows, and of tracery decorations on the walls; while in England it had stiffened into perpendicular, and, for reasons logically good, the pointed arch was gradually flattened till it became a straight lintol. The art could go no farther than it had gone. In a stagnant state of society it would have lingered on, degraded like modern Chinese pottery, but to the creative age of the Renaissance it had lost its interest and was chucked away like a sucked orange.

It was impossible that an age which had found a new life in classic literature and sculpture could avoid, in the then state of Gothic, adopting classic architecture. But it was not mere copying as Mr. Fergusson, by his nickname of "copying styles" seems to assert; the great palaces of Rome and Florence are original work, not copies of any old Roman remains. This age in France, Germany, and England was fortunate, not only in having great original architects, but in having the good sense to employ them instead of mere copyers and bunglers. Thus the new style became established as the style of Europe and of every country which adopted European civilisation. It soon came to be worked on the system of what Mr. Fergusson calls a true style, not by original architects, but by workmen following a tradition. It was mingled with such tradition of the old Gothic style as remained in each country, each of which produced its own type of the style characteristic of the genius of the people; and, notwithstanding the more common employment of architects during the last few years, it remains everywhere the traditional style to the present day. Every workman has been apprenticed to it and understands it; and in its builds, without drawings, according to Mr. Fergusson's "true system," those houses which the reviewer truly says Englishmen who must live in them justly abuse. The style has, to borrow a term applied in ecclesiastical controversy to a true church, a note of a "true style," it is practised by workmen like an instinct, and its production can be reasoned about with the same certainty as those of the instincts of the lower animals; and, like them, produces sometimes curious results by being followed out in un-

suitable circumstances. I remember seeing once a row of houses in a street where the side wall of the last house overhung a wooded bank and commanded an extensive view. Reason would have dictated to put the windows in this wall, but the builder's instinct prompted him to make this house exactly like the others, and to make this wall blank like the other party walls with the chimney in it.

It would seem then from the history of the progress of the Gothic and Renaissance styles that the law of progress in architecture is this: Architects with the gift of originality, and whose names consequently have been remembered, design buildings different from those commonly built. The new fashion is imitated by the ordinary workman, and a traditional, or true style, if Mr. Fergusson prefers so to call it, is established, which continues developing by constant improvement, or at least changes, till a new "epoch-making" period of mental activity produces or rather gives a chance to original minds again to make a new start. The same thing happens in other arts. Our original painters now, as in old days, have each their school of followers. When railways were first started, original minds like George Stephenson's, were needed to lay them out; now any contractor, or even, perhaps, as the reviewer suggests, common workmen can make them. Any fool now can go to America, or make an egg stand on its end, though it needed a Columbus to do it for the first time.

The late Gothic revival is an instance of the same thing. Pugin and others started it, and his works, though among the earliest, are still among the best, from possessing the originality of genius. The style has now become traditional, with established forms and modes of work, if not for houses, at least for churches, not with workmen who, still imbued with the ways of the degraded classic tradition, though they make abortive attempts in it, have never understood it; yet with architects who, except when they unite with bad taste a belief that they are capable of originality, design fairly good Gothic churches.

And the same is also true of the new fashion of so-called Queen Anne, although those whom accident may have caused to be accounted its leaders may not be those who first started it. The London builder is adopting its features, with more chance of success than in Gothic, since it is the natural outcome of London materials and modes of work; but it is to be feared that he, as well as the more ignorant architects, in attempting to get out of common place will run into vulgarity, to avoid which, in this style, requires the constant restraint of good taste and refinement.

We see, then, that in architecture, as in other arts, in times of which we have any record, we can trace the rise of new inventions and know the names of their authors, while in times of which the records are lost the names of the poets and sculptors have perished equally with those of the first inventors of new styles of architecture. Reasoning from what we know to have happened in times of which we have records, we may be certain that in times of which the records are lost now improvements in architecture, great or small, were not made by common workmen or by the general sentiment of the community, but by individual inventors, whom then, as now, the multitude copied and followed; and if these old works of art express the feelings and genius of the race, it is because the race had adopted them and taken them as the expression of their own thoughts.

And architecture is necessarily now a product of its time, and influenced by national movements rather than by individuals to a greater degree than art such as poetry, for several reasons. In the first place it must, in domestic work, suit itself to our life and habits; and these do not readily change, even for the better, at the bidding of any single individual, while, in its application to religious purposes, it is dependent on the prevailing religious sentiment. Thus we find that the romantic revival in architecture was a sequence of the romantic spirit in literature and religion, and will last as long as these.

In the second place, originality has not the same chance of showing itself as in poetry. An architect's work must be approved before he is employed and has an opportunity of exercising his gifts; and new ideas being strange are received with opposition and dislike all the greater the better they are and the higher above the heads of the people. We wasted, for instance, our gift of Pugin. One sees in his little church at Ramsgate, where he had his own way, and which seems almost to contain in itself the whole Gothic Revival, what a wealth of architectural design he could have given us if we had had eyes and hearts to receive it.

A third reason why architecture cannot to such an extent as poetry or literature be dependent on individual originality is that a building cannot, like a poem, be the work of one man. No doubt, as all of us know, by full and careful drawings, one man can direct a work down to its minutest details, and that, in the present state of workmen's training, this is the only way to get it right. But not the less is it true that in such a state of things the architecture of a country labours under enormous difficulties. The number of men who are capable of doing this when architecture has no settled rules, as at present, and when they have only their own innate taste and sense of right to guide them, is necessarily few, and as we see, they are the least likely to be employed. The public taste at present is ignorant and unformed, and especially is debased by a vulgar sensationalism to which the boasted freedom of Gothic has too readily lent itself. It is otherwise when the laws of art are settled, when they are universally diffused and learned as traditions of the trade by apprenticeship, and practised without difficulty by men who could never of themselves have invented them, when the work of architects, sculptors, carvers, painters, furnisners, fits together naturally without special effort. But if we ever again come to this, it will not be by the fortuitous groping of common workmen, but by men who can conceive, see clearly, and work out new order and beauty in the art. On our having men who can do this, and in our giving them the opportunity of doing it in actual work, depends the hope of our architecture. But as in Pugin's case, there is more chance of our having the men than of their being employed.

We agree with Mr. Fergusson and the reviewer, that the present unsettled state of architecture is a misfortune to the art. But the causes of this are deeper than architects can control; they cannot change the spirit of an age; they are but straws in the tide of opinion which, in more im-

portant subjects than architecture, is now in a state of flux and movement.

But all the more on this account does it seem to me our duty to preserve, instead of destroying, such building traditions as remain among workmen, to give new vigour and interest to a style still living, though common-place and degraded, and to give beauty and refinement to forms which, left to uneducated builders for half a century, had become vulgarised, while the talent and refinement of the country was following the new cry after Gothic.

This consideration, though not the cause of the late reaction to free classic architecture, which lies deeper, is, I think, a justification for it.

When, then, the reviewer says that the hope of English architecture lies in the working man without the aid of architects working on the traditional system of the true styles, we answer, you have had that condition for fifty years, and the result is our dismal suburbs of London builders' houses. It was not so, we have seen, that architecture has progressed in the past, and, as Bishop Butler says, there is no reason to believe that it will be otherwise in the future.

The talent for designing architecture, like that of making poetry, may be born in any rank. Bishops may have had it in old time, and I see no reason why women should not have it. I have known some ladies excellent planners. Builders may have it, and some large firms supply the want of it by keeping a young architect on the establishment, though their designs, even those of the best firms, often fail, not only through commonplaceness and poverty of invention, but in management of lighting and in planning. It is within my experience that a builder, asked to do some work requiring design, has come to an architect to advise him. I think he showed therein more wisdom than his employers, and that we should have better architecture if builders in their own work oftener did the same.

To say that workmen only can produce good architecture is absurd and contrary to fact, and I do not think they would thank us for pushing them into this position. I have had occasion to know something of them, and have found them mostly honest and sensible, with perhaps over-veneration for acquirements in others which they did not themselves possess, with interest and pride in their work and in the design they were helping to carry out, and conscious that, to produce better art than they were used to, they must work under guidance. I have heard a different account of them—that they take no interest in their work, that all they care for is to get as big a wage and to do as little work as possible for it. Doubtless this is partly true, and the workman's trades union regulations seem framed to foster such feelings. But who first taught him to give as little and to get as much as he could, that his only value was his market value, that it was all a question of hard bargain in which considerations of sentiment or honour were out of place? If in dealing with men political economy has dropped out humanity as a factor in the problem, it is not the teachers of its dreary gospel who should complain that the workmen have taken them at their word.

Working men would not appreciate being left to make designs themselves, or understand the veneration of the reviewer for them. Hero worship has reason in it, but I can see none, nor would they in the reviewer's new religion of the worship of the working man.

We have no directions, either from Mr. Fergusson or the reviewer, as to the practical steps which the public should take to introduce the "true" system of architecture. On one point I would desire information, namely, which of the numerous trades connected with house-building—bricklayer, plasterer, carpenter, plumber, bellhanger, decorator, &c.—is to have the direction of the work. Old buildings had not this complication; the other trades were subordinate to the mason, but a mason nowadays would find himself very helpless in adjusting the requirements of a modern house. Our London builders' houses, though each merely a repetition of what has been done a thousand times, do not show much hope for the system of leaving workmen to their own devices. It is, indeed, a curious theory that knowledge, education, and refinement should be hurtful to an art, to the proper practice of which, in the present day especially, they are essential. It seems to have arisen from the fallacy that because architecture, in a wholly different state of society from ours, and when good art was traditional, was practised successfully by men who could neither read nor write, the right way to advance it now is to leave it in the hands of ignorant men. The contrary is the truth; for if our architecture be in the deplorable state the reviewer asserts, it needs to raise it, not ignorant men, but men who, to education, refinement, and special training for the work, unite the faculty of original design.

In conclusion, Mr. Stevenson proceeded to answer the question whether the present profession of architects was the class so described, and he intimated the intention to publish his Paper *in extenso*.

The CHAIRMAN remarked that the discussion on Mr. White's Paper, read at the previous meeting, had been adjourned, so that there was now, with Mr. Stevenson's Paper, ample material for discussion.

Mr. C. F. HAYWARD said he desired to present the Institute with an illustration as a companion to that of the "Portcullis Club." It was a copy of a picture which was hung up this year on the walls of the Academy, called *Capital and Labour*. He would leave those who had taken any part in building generally to imagine how such a thing could be described as an Eden or Paradise upon earth. They were all acquainted with the picture, and he hoped that the copy would be accepted. The title of the Article, No. 3, "The Hope of English Architecture," was, he thought, almost a misnomer. The Article appeared to have been written by an architect, who at one time was in considerable practice, but had retired. The writer dealt not with architects alone, but also with amateurs and the *dilettanti*; going even out of his way to give a slap at the memory of Brunel, who designed the *Great Eastern*, because difficulty had occurred in getting the vessel afloat. In proceeding, the writer attacked the modern system of education, and condemned the state of society in general. There could be no question that a great deal of the work of the present day was put down to the credit of those who did not really design the work; but in many trades—

notably the jewellery trade—a considerable proportion of the profits was obtained by the use of the brains of persons whose names did not appear in connection with the work. In the Renaissance Period the names of jewellers and silversmiths were well known, and they traded in their own names and on the strength of their own reputation; but in the present day who could tell who was the actual designer of some exceptionally fine piece of jewellery? Considering the multiplicity of subjects with which the reviewer dealt, Mr. Hayward thought it was more by accident than design that a hit was given at architecture itself, the hits being so freely distributed all round. When the reviewer came to speak of the condition of workmen generally, he by no means asserted that they were fitted for the tasks which he would impose upon them; and how any hope could be obtained from men who were acute and clever about pay, but, as a rule, were in the lowest state of mental feebleness, he (Mr. Hayward) was at a loss to conceive. The difficulty he experienced in commenting upon the article was that it contained so much folly mixed up with common sense, and it was almost impossible to separate one from the other. He thought the paragraph expressing admiration for the "Portcullis Club" must have been slipped in accidentally, for it was impossible to imagine that the writer really admired such a work. He was sorry the Club was not photographed, because he was convinced that nothing could be worse than for the working class, or any other class, to be thus petted and patted on the back. Anyone who was really acquainted with the working man must feel convinced that such a method of dealing with him, instead of elevating, was only calculated to degrade him. He would ask, was not an ordinary, good, and clever workman always ready to learn, and willing to see his faults when they were fairly pointed out to him? They generally evinced a desire to improve themselves by communicating with others who possessed knowledge superior to them; but whilst upon this point he thought it would be useful if they could ascertain whether the museum in Tufton Street was productive of advantage to the working man, and to what extent. With regard to the main question—the prospects of English architecture—he thought one of their greatest hopes lay in the fact that the profession was thoroughly abused. At one time the architectural profession was scarcely recognised, and was patronised; but now the profession was established in every town in England. Writers, unfortunately, were prone to make misrepresentations, and in a recent article in the *Times* the accusation was even made that the architectural profession was responsible for the population of London not being properly housed. Such a statement showed that a deal of ignorance prevailed respecting their profession, and their hope would consist in overcoming this ignorance, so that their employers and the public generally might understand the architect better, and that it was his desire to satisfy the requirements of the day. He remembered, at their opening meeting for the session of 1873, a remarkable statement being made by the Duke of Westminster, who expressed his belief that the want in this country was the more general cultivation of the study of architecture and art in the public schools—a study to be pursued as much by persons of his status in society as by those in a lower grade. In this statement Mr. Hayward said he heartily concurred, and in conclusion expressed his conviction that one of the greatest hopes of architecture consisted in the public being ultimately initiated into the principles of architecture, and being then better able to appreciate the efforts of genius, and to better understand the practice and aims of the profession.

Mr. BLASHILL exhibited a rubbing from the tombstone of a French master mason, in which Guillaume l'Atelier was spoken of as the architect of l'Eglise de Caudebec; but it appeared that the church was commenced some thirty years before the mason had anything to do with it. The *Quarterly* reviewer had spoken of Hiram as if he were the architect of Solomon's temple; but this idea was negatived by the sacred writings. Hiram was nothing more than a workman; for King David had not only left the money for the work but the drawings of the various details, and Solomon only carried out his father's plans. As another instance of the looseness of modern writers: Chaucer had been spoken of as an honour to the architectural profession, but there was in fact no evidence of his having had anything to do with architecture, except during about the last three months of his life, when he was appointed clerk of the King's works, and even his duties in that capacity were discharged by deputy. When such mistakes were made, what reliance could be placed upon quarterly reviewers?

Mr. AITCHISON said that he had read the first two articles in a cursory kind of way, and they reminded him of the story of a boy who, on applying for a situation in the post-office, and being questioned as to his qualifications, replied that he was great at denunciation. The writer seemed to reason thus: Because some architects had originally been workmen, therefore every workman must be an architect; which was much the same as saying that because a goose was a bird therefore every bird was a goose. If workmen were now to take the lead, he would recommend all architects to hire themselves out to workmen as speedily as possible, and endeavour to master the various systems of sawing, planing, and so forth. And yet such a course of proceeding might not be attended with beneficial results; indeed it was very doubtful whether the architect would derive much benefit from the working man's tuition. He was afraid that the reviewer, who seemed to wish well to the architectural profession, had, so to speak, hit the wrong nail on the head; yet to some extent he was right, for he (Mr. Aitchison) agreed with him in thinking that there was something wrong about the profession. He confessed to a partiality for the working man, whose principal weaknesses were a fondness for beer and of getting a holiday; but beyond these distinguishing characteristics he did not believe there was much difference between the working man and the rest of the community. Trade unionism was a feature with working men, but architects also belonged to a trade union, for their scale of charges was fixed, and he had heard of an architect of considerable eminence who was absolutely rattened for infringing the rules—being thereby cut off from a supply of bad coffee and worse talk. There was an immense amount of industry and talent in the profession, but somehow or other their energies were often misdirected, reminding him of the costume

shops in Wych Street, where there were plenty of dresses suited to a bygone age, but nothing adapted for present use. He had occasion some time ago to defend architects against a patron of architecture, but laboured under the disadvantage of the tastes of mankind being now so universally bent upon physical science and its applications to the exclusion of art properly so called. There was, as he had observed, a deal of industry in the profession, but the difficulty was to discover anything new. If either the Pope or Prince Bismarck were to discover the existence of an additional nerve in the backbone of an oyster, it would be another feather in his cap, but if he were to erect the finest building of modern times it would be accounted as nothing. With regard to the industry and talents of the architects of former times, they were natural enough, for in those days, if the energies of the men who devoted themselves to art had been turned in a different direction they might have been burnt alive. As to the hope of English architecture, he scarcely knew what to say about it. New materials were coming into use almost every day, and if some of their young friends were to apply themselves to the study of iron—which might even now be almost regarded as a new material—he believed much good would come out of it. Let them study the properties and applications of iron with so much assiduity that it might be said of them, as of robin red-breast, "All his thoughts were fixed upon a rail." They should endeavour really to like something, and if they could like nothing in particular, they should construct as plainly as possible, and some future genius might perhaps impart the elements of beauty to that which though a plain was a sound and sensible structure.

Mr. WOODTHORPE observed that working men who were now being patted on the back were seeking for an increase of wages, and when architects succeeded in obtaining an increase in their percentage they would be able to devote more time to their work, and have greater comfort at home. Architecture had reigned since Vitruvius, and there must always have been a designer at the head, for it was the height of absurdity to imagine that the ordinary working man was capable of producing designs such as had been conceived and executed—the capacity of the working man being evidenced by the "Portcullis Club." One great evil against which they had to contend was the assumption of knowledge on the part of archaeologists and others about subjects respecting which they were profoundly ignorant. He had much pleasure in proposing a vote of thanks to the authors of the Papers.

Mr. W. WHITE, F.S.A., seconded the proposal.

Sir GILBERT SCOTT said that, as chairman, he felt that he ought to add something to the discussion, and yet the subject, though extremely interesting, was so perplexing that he was not inclined to offer a very decided opinion upon it. Although he did not know what the hope of architecture was, he perhaps knew what it was not. In the first of the articles he had been especially singled out for abuse; but it was consoling to know what class of work the person liked who indulged in the abuse. Fancying the work was executed by him (Sir Gilbert Scott), the writer had found fault with the beautiful tabernacle work which formed part of the altar screen in Westminster Abbey; but it happened to have been designed in the reign of Edward VI. The remarks he had now to offer were from a different point of view. When looking back to different periods in architecture, a great deal of interest was attached to the question as to the kind of men by whom such work was carried out and executed. He believed the reviewer had exaggerated the difference between the men of those days and of the present; but at the same time, considering the difference which actually did exist between the works of the past and of the present day, he thought it would be very unwise not to endeavour to trace the reason for this difference and to find a remedy. On the occasion of his first inaugural address Sir Gilbert said that he expressed sentiments which he still entertained, and would venture to repeat as being applicable to the present subject. He then said: "The first question which suggests itself is—do all, each in his chosen camp, and each according to his ability and opportunities, strive to the utmost to do his work well, and to fit himself for doing it in a manner characteristic of a period of earnest onward striving? Now, one of the most marked characteristics of the productions of the great periods of architecture is this: that, though the works of any one of them differ in artistic merit, some displaying the highest genius, others only comparatively unassuming correctness and propriety, yet no really bad architecture is ever to be found among them. From the most majestic and glorious building downward to the least pretending, the same matured knowledge and the same careful, thoughtful working is found ever to prevail. Who ever heard of a work of the Greeks at the great period of their art which they would presume to call bad architecture? Even in Byzantine art, though it laboured under great disadvantages, we have proofs, in the ruined cities discovered in Syria, that buildings of the mere vernacular classes were as carefully studied as the mighty works by which their architecture is better known, while in works of the twelfth and thirteenth centuries in our own and neighbouring lands, as well as in Italy, the same masterly skill and the same studious handling is found in the simple village church as in the noblest cathedral—nay, one is often disposed to uncover oneself in humble reverence before the work of some unheard of mason or carpenter in an obscure village of which we had never before so much as heard the name; nor did these old workmen, so unambitious of fame, ever produce work to the like of which the best or the most self-satisfied among ourselves need be ashamed to attach his name. Now is such the case among ourselves? It is worse than idle to attempt to blind our eyes by bland felicitations, or to seek the bliss of a fool's paradise; let us rather look facts boldly in the face, and if they prove unpalatable let us make it our business to correct them. The true answer to the question is, that no contrast could be more marked than the difference in this respect between the present state of things amongst ourselves and that which prevailed at the great eras alluded to. Instead of all works (each in its own style) displaying the same instinctive sentiment, the same understanding of its style of art, the same careful, wise, and thoughtful handling, the very reverse of all this is actually the case. From each of our art camps productions are put forth of the highest and of the most contempti-

ble character, as well as of every intervening stage of merit and of demerit. Our age and country will hand down some works of which no age and country need be ashamed, and others at which any age or country, however degraded its art, ought to blush, while I fear a large number of the buildings which will represent our period will be of that negative kind which, being neither hot nor cold, but only lukewarm, will not tend to excite any but a sickly emotion." Those passages, Sir Gilbert Scott believed, presented a perfectly true description of the art of the present day. They had a deal of the very best architecture and also of the very worst that the age could produce, besides much that was of the middle class. But did the reviewer suggest any remedy for this state of things? He (Sir Gilbert) believed that there was not so much difference formerly between the architect and the workman as now existed. Youths, such as were now apprenticed to themselves, would in former years, if they exhibited taste and energy, have been apprenticed to a mason. If a man then had not the genius for designing cathedrals he would continue to cut stones, but now-a-days such a man would be turned loose upon the public as an architect. He did not know how in the world this was to be met, but thought the evil would never be overcome until the profession refused to receive as pupils any who had not passed a preliminary examination before the Institute. Sir Edward Beckett had pointed out that unqualified men sometimes succeeded by force of a good connection better than competent men who were not so fortunately circumstanced. Although workmen and architects were formerly brought up to a great extent alike he believed that the distinction in social status was very marked, and that a man who then raised himself to the class of masons was a very superior man to one of that grade at the present day. William of Wykeham and others were masons. The fact of bishops being architects showed that the order of master-masons was not at all a low one, but of much the same rank as was now held by the architectural profession. The masons were held in high estimation, and went about sketching, just as architects now did, only with this difference—they sketched what was then new whereas architects had now to sketch what was 600 years old. Although there were some thoroughly artistic men among carvers and workers in metal and glass, they had no desire to do more than perfect arts which were the handmaids of architecture, and deserved every encouragement; but the idea that architects could derive any benefit from an association with the ordinary working man was ridiculous. There was one suggestion he would make with a view to the youth of the profession becoming more practical men and better architects. He thought the opportunity should be afforded them of visiting works in progress, and that architects should do their utmost to encourage and improve zealous and earnest pupils.

The motion was then formally put from the chair and carried with acclamation, and Mr. W. H. WHITE, in replying, made a proposal for an architectural examination to which all Fellows and Associates of the Institute might submit, in the hope that the passing of the examination would ultimately become the only passport to practice. Mr. T. Roger Smith had written to approve of the proposal; but it was suggested that the older Fellows should be exempt.

Mr. STEVENSON also replied, and stated that a portion of his Paper, which he had omitted to read, had been supplied by the observations of the President. One of the great misfortunes of their art was that bad works were abiding, whereas in literature what was bad would perish.

Before the meeting broke up, Mr. R. PHENÉ SPIERS took the opportunity of observing that the scheme suggested by Mr. White was amply met by the existing voluntary examination.

METROPOLITAN BILLS IN PARLIAMENT.

OF the 262 Bills which have been deposited in the Private Bill Office of the House of Commons nearly 40 relate to works more or less connected with the Metropolis. The Crystal Palace Company seek, among other things, powers to grant building leases of certain parts of the land belonging to them. The Society of Lincoln's Inn, with Her Majesty's Office of Works, have a Bill for the purchase of land for erecting suitable accommodation for the judges, officers, and others engaged in the administration of the law. For this purpose it is proposed to purchase premises in the neighbourhood of Lincoln's Inn, Star Yard, Chancery Lane, and New Square. The Metropolitan District Railway desire to construct a short line to unite their railway at Hammersmith with the Kensington and Richmond line of the South-Western. The Metropolitan Railway ask for powers to construct railways between Aldgate and Bow, with a branch to the East London Railway. The London Central Railway (to be worked by the Midland and South-Eastern) seek to extend the time for the purchase of land to three years beyond August, 1875 (the period already authorised), and for the completion of works to August, 1879. The Eastern Metropolitan Railway Company want powers for making a railway from Fenchurch Street to Bow. "The City of London Land Station and Subway Company" seeks to be incorporated to acquire land between Queen Victoria Street and Walbrook, for the purpose of a general central railway station for companies using the underground railways. The Metropolitan Board of Works promote a Bill to provide for the opening of the present toll bridges across the Thames and the East and West Ferry Roads (Poplar) to the free use of the public. The bridges named are Hammersmith, Putney, Wandsworth, Battersea, Albert Bridge, Chelsea, Vauxhall, Lambeth, Waterloo, and Deptford Creek. By another Bill the Metropolitan Board of Works take various powers, the principal being for opening up communication from Charing Cross to the Victoria Embankment. By a third Bill the Metropolitan Board seek to purchase Stockwell Green, which is to be used as a recreation ground for the public. The Corporation have a Bill to establish a fruit, vegetable, and flower market at the west end of the Meat Market in Smithfield, and to "dis-market" Farringdon Market on the completion of the former. The Metropolitan Meat and Poultry Market, and the Fruit, Vegetable, and Flower Market will be known as the "Metropolitan Central Markets (Smithfield)."

METROPOLITAN RAILWAY EXTENSION.

THE new extension of the Metropolitan line from Moorgate Street, the present terminus, to a point close upon the intersection of Liverpool Street and Bishopsgate Street, will be open in a few days, and will effect a junction between the Metropolitan and Great Eastern systems, and thus between the East and West of London.

The works upon the new half-mile were begun at Moorgate Street rather more than twelve months ago. The line passes under Little Moorfields and Finsbury Pavement, the tunnel being here formed of side walls and wrought iron girders, of strength sufficient to carry the buildings which will be erected on the vacant ground. From Finsbury Pavement to Blomfield Street there is the ordinary brick tunnel with concrete invert. The new station (open-roofed) is on the east side of Broad Street, which crosses the station yard. There are entrances from Broad Street and Liverpool Street, and provision has been made for a third entrance from Bishopsgate Street, if required.

The Metropolitan station at Liverpool Street adjoins the new terminus of the Great Eastern, and there are subways for foot-passengers between the two stations as well as a junction of the lines. Through carriages will be used immediately, though the station works will not be completed for some months. The Metropolitan Company have arranged to begin at once running their Hammersmith service of trains over the Great Eastern system as far as Walthamstow, Enfield, and Stratford; passengers being enabled to book through from all Stations on the Metropolitan to all suburban stations on the Great Eastern line. This new junction of the West and the East will be of advantage to goods as well as passengers.

The progress of the works on this short but costly extension has been much retarded by the necessity of under-pinning two chapels, which were both founded on bog. St. Mary's Roman Catholic Chapel, in East Street, was furthermore remarkable for its vaults, containing an immense number of coffins, some of notable dignitaries of the Church and aristocracy of former days. When the navvies first broke into these vaults the stench was intolerable, and air had to be driven in by fans to enable the men to work.

The new line is laid with rails weighing 86 lbs. to the yard on sleepers of Baltic timber measuring 6 feet by 12 feet, placed 2 feet 8 inches from centre to centre. The contractors are Messrs. Kelk & Lucas. Mr. Prowse is the contractor's engineer, and Mr. Edward Wilson, consulting engineer to the Metropolitan, has superintended the work on the part of the company.

IMPROVEMENTS AT GUILDHALL.

THE City Lands Committee of the Corporation of London, to whom the subject had been referred for consideration, have presented a Report to the Court of Common Council, submitting a model for the construction of a new Council Chamber, at an estimated cost of about 50,000*l.*, exclusive of fittings; and also a plan for the re-arrangement and reconstruction of the Committee Rooms and offices on the north side of Guildhall, at the further estimated cost of about 56,000*l.*, amounting together to 106,000*l.* The project, in fact, appears to contemplate a complete change in the topography of that part of the city, not only with a view to the greater convenience of the civic authorities in the transaction of business, but to bring the architecture of the subsidiary buildings and offices as much as possible into harmony with the ancient Guildhall itself in its now restored and imposing state, and with the new Free Library erected within the last few years, and immediately contiguous to the Great Hall, of which it is now a splendid adjunct. In the treatment of the weighty matters referred to them, the Committee have had the advice, all through, of Mr. Horace Jones, the City Architect, and they recommended that the proposed new Council Chamber should be at once erected, agreeably to the model submitted to them, at the estimated cost of 50,000*l.*, exclusive of fittings, and that the reconstruction of the Committee Rooms, courts, and offices be proceeded with after the new Council Chamber shall have been completed, subject to such modifications of the plan as may hereafter be deemed advisable. In that plan the central doorway in the Guildhall, opposite the entrance porch, is retained, and leads by a few steps through a corridor to a central octagonal loggia, from which another corridor leads on the right to the Council Chamber, and on the left to the Committee Rooms, the level of the whole suite of apartments being identical with that of the Library. The area of the Council Chamber within the screen would be about 2,100 square feet, compared with 1,645 square feet in the present apartment, and there would be seats for every member in the new chamber, or sixty-six seats more than in the existing one. Seats are provided for twenty-four aldermen, that being the numerical strength of the whole aldermanic body in the Corporation, as well as seats for the Lord Mayor and Sheriffs, together with ample accommodation for the civic officers, representatives of the Press, and memorialists. The City Architect, in submitting these proposals, of which the above is a summary, calls attention to the fact that the Council Chamber can be erected according to the proposed plan without interfering with the business of the Corporation, and yet be complete in itself. He adds that the style and character of the proposed new buildings will, of course, be in accordance with the present hall and library.

Forthcoming Contracts.

• Tenders will be delivered on the 21st inst. for a new military brigade depot, &c. at Warrington. Quantities by Messrs. Gould and Brown.

† Tenders will be shortly required for five houses and shops in the Camberwell Road. Mr. Swan, of Cannon Street, architect.

Tenders will be delivered on Monday next for a leather warehouse in Spa Road, Bermondsey, for Mr. J. Barrow. Messrs. Elkington & Son, architects.

EXPLORATION IN ATHENS.

A CORRESPONDENT of the *Standard*, writing from Athens on Dec. 26, says that a few days before some workmen engaged in taking ballast from the bed of the river Ilyseus discovered two large pieces of sculptured marble belonging to the very best period of Grecian art. One is a sepulchral monument, very much mutilated, representing two figures, one seated and one standing in the usual manner, but the heads and limbs are wanting. The other, though not perfect, is a truly magnificent work, perhaps one of the finest extant. It consists of a group in very high relief. An old man, venerable with age, simply clad, leaning on his staff, is addressing a young peasant almost nude, and in the very prime of life, whose fine figure and splendid anatomical development the artist has so wonderfully displayed that the marble seems to breathe and palpitate with life. Besides these there is a greyhound full of that springy motion so well known to Landseer, and a little lad entirely naked—probably a slave—seated on a stone with his head resting on his hands placed on his knees, a picture of most profound repose. Some imagine the group to represent Œdipus inquiring the way to Athens. This is probable. But it is quite impossible to convey any adequate description of the expression of the several figures or their attitude or eloquent features. This piece of sculpture will certainly become famous. Every day brings new treasures to light in the various excavations about Athens, and one cannot help regretting that lovers of archeology and ancient art do not furnish liberal subscriptions to carry on extensive explorations among the priceless works of art that would instruct and delight the world, and which lie buried a few feet under this soil in almost every direction. Why must the pleasure which we might so easily obtain and so richly enjoy be referred to future generations?

The Temple of Æolus, or the Tower of the Winds, appears to slowly rise from the ground as the soil is removed around it, and in a short time will appear what it really is, one of the most beautiful, as well as interesting, antique monuments in existence. Many fragments of sculpture have been turned up in the soil, but nothing very perfect or noteworthy has been brought to light, except a large slab ten feet long and four broad with an inscription showing that it was dedicated by the city of Athens to the fame of a man who had distinguished himself in the battle of Marathon. This slab has apparently been used as the floor of an oven at some period, and was so calcined that it broke into fragments when lifted. It will be repaired, however, and carefully preserved. In a barrack which is close to this Tower of the Winds stands an Ionic column supporting a long slab of marble, bearing an inscription, which passes through a wall and rests upon another Ionic column on the other side. A row of columns is supposed to extend across the broad road, because others exactly similar are found in the basement of a house opposite. This is the next excavation which is proposed, and great expectations are entertained that an important temple will be discovered; and as it is so completely buried that only the capitals of the columns are peeping above ground, it may be found in a very perfect state of preservation when the soil is removed.

WORKS IN HAND.

No. 14 Water Lane.

One of those reconstructions with which the city has recently become so familiar is near completion here for Mr. Wheatley, under the superintendence of Mr. J. Whichcord. A depth of 90 feet, with a frontage of rather more than 20 feet, has been laid out for occupation as offices. The front is of red brickwork, some moulded beads running up the angles of the openings. The iron girders have been supplied by Messrs. M. T. Shaw & Co., and the areas are faced with white glazed bricks from Messrs. Beart & Co. The area lights and ventilators are from Messrs. Haywood. The granite bases at the pavement line were obtained ready worked from Messrs. Mowlen & Burt. The slating was executed by Mr. Sterling; closets and water regulators throughout were supplied by Messrs. Underhay. The front shutters are by Messrs. Snoxell & Co. The general contract, amounting to about 6,000*l.*, is in the hands of Messrs. Newman & Mann.

New Station for the City Police.

The police station, which is now in course of erection upon a piece of ground reaching from the new thoroughfare of Bride Lane into New Street, with a frontage at either end, is in length about 95 feet, the average width is 50 feet, and the height, from footing to ridge at the extreme points, 76 feet. The basement contains men's kitchen, a mess-room, and the housekeeper's department. On the ground-floor facing New Street are the charge-room and inspector's offices, and behind are some cells, the muster room, &c., with a recreation room for the residents. On the first-floor are the inspectors' offices and dormitories for the single men, and some quarters for the sergeants. The second and third-floors are occupied by sergeants' quarters, dormitories, and residential accommodation. The roof and some of the floors will be of asphalt, laid down by Messrs. Wright & Sheardown. The stocks required for the building are being supplied by Messrs. Rutters, and the white facing bricks, for the facing, by the Burham Company. The dressings are of Portland stone. The lime is supplied by the Dorking Lime Company. A considerable quantity of rivetted and other girders will be required, but the contractor has not yet been selected. The total outlay will be about 10,000*l.* Messrs. Browne & Robinson, of Worship Street, are the contractors. The works are now about the ground-floor level. Mr. Bavin is the clerk of works, and Mr. Henderson foreman on the spot. The architect is Mr. Horace Jones.

WOOD PAVING IN REGENT STREET.

THE Works Committee of the St. James's Vestry have recommended that wood pavement be laid down in Regent Street. The committee state that the total cost, including the maintenance of the wood for sixteen years, will be 40,000*l.*, whilst the present roadway would cost 50,000*l.* for its maintenance for the same time. It was explained that the removal of the macadam would cost 2,000*l.*, and the laying down of the wood 16,500*l.* It was also stated that the cleansing of the street would cost 300*l.* a year under the proposed system, whilst the present expense of repair was 1,000*l.* per annum, and the saving altogether to the parish for the sixteen years would be 22,000*l.* At the discussion which took place on the subject, the general feeling of the vestry appeared to be in favour of adopting the recommendation of the committee, but the final decision of the vestry on the question has been adjourned.

SANITARY CONFERENCE IN BIRMINGHAM.

THE programme of the Sanitary Conference to be held in Birmingham on the 14th inst. has been published, and is as follows:—

Morning sitting, 10 A.M. till 1 P.M.; opening statement by Alderman Joseph Chamberlain, the Mayor of Birmingham. Papers on "The Sanitary Condition of Birmingham," by Mr. A. Hill, M.D.; Bristol—Mr. D. Davies, M.D.; Leeds—Mr. G. Goldie, M.D.; Liverpool—Mr. W. French, M.D.; "The Comparative Mortality of Large Towns," by Mr. B. Foster, M.D. Discussion.

Afternoon sitting, 3 till 5 P.M.; Papers on "Improved Dwellings for the Working Classes," by Sir Sydney Waterlow, Bart., M.P.; Bailie Morrison; Mr. W. Swindlehurst. Discussion. "Hospitals for the Isolation and Treatment of Infectious Diseases," by Mr. J. B. Pritchett, M.D. Discussion.

REVIEWS.

ART WORKMANSHIP: a Monthly Magazine of Design to Illustrate the Masterworks of all Periods. Asher & Co.

THE second division of this reproduction of a German publication contains parts No. 7 to No. 12. There are more than forty plates, mostly woodcuts, some being in colour, drawn in the most careful style by Professors Riess, Gnanth, Herdtle, Walther, and others. They comprise diverse varieties of art work. There are examples of sculpture in stone, wood, and metal, furniture, embroidery, arms, wall decoration, inlay, pottery, goldsmiths' work, and illuminating. Most of the examples are taken from specimens in German collections. Among these may be noted a bronze knocker from Augsburg, a vase 58½ centimeters high, at one time belonging to hereditary cup-bearers of the holy Roman empire, and presented by Maximilian II. to Count Limpurg in 1562, the chimneypiece from the War Chamber in the Lubeck Town Hall, an antique marble candelabrum in the Glyptotheca of Munich, some fifteenth century table spoons of elegant form from Vienna, the candelabrum by Hans William Behem in the Town House of Nuremberg, and the iron lattice from the Lüneburg Town Hall. There are a couple of plates of the famous Onyx Vase in the Brunswick Museum. This work, which is over six inches high, is supposed to belong to the second half of the period of the Ptolemys, or to the epoch of the Emperors up to the time of Hadrian, and the figures are believed to have been derived from sculpture of the best period of Greek art. It is cut out of a "kidney-formed sardonyx, and consists of five or sixfold layers of white and red-brown, quite transparent even in the most darkly-coloured parts." The vase formerly belonged to the Dukes of Mantua, and when their city was taken in 1630 it fell into the hands of a private soldier, who sold it for 17 ducats. After many vicissitudes it became the property of the Dukes of Brunswick, and on the last Duke's death it was discovered among his property in Geneva, whence it was restored to the Ducal Museum in Brunswick. There are several beautiful examples of Italian work also given, such as the doors from the Scala d'Oro of the Doge's Palace at Venice, a part of the mosaic floor of San Marco, wood carvings from some of the cathedral stalls, and the door frame and capitals from the Ducal Palace at Urbino. All the examples have been selected with judgment, and are in fact representative of the times which produced them; and the new division of "Art Workmanship" will be found a suggestive addition to the student's library.

ETCHINGS ON THE LOIRE AND IN THE SOUTH OF FRANCE. By Ernest George, Architect. London: John Murray.

THE praise which Mr. Ruskin gave in these columns to Mr. George's first series of etchings is no less applicable to the "Etchings on the Loire." Experience and success have given the artist that confidence which is one of the essential requisites of vigorous etching. In other arts an excessive painstaking may be of service, but it is an impediment to the etcher, as it interferes with the prompt translation of his thoughts. As yet, Mr. George, perhaps prudently, restricts himself to the picturesque in buildings, all those effects of cloud and landscape which are the delight of most etchers he leaves unrecorded; and although he travels along its banks we catch but few glimpses of the famous river.

The views on the Loire begin in Orleans with a street view, showing the exterior of the Church of St. Jacques with the *Musée* in the distance. Then follow two views of the Chateau de Blois, one being the court yard, showing the winding staircase of Francis I. We published in our second volume another view of this wonderful piece of masonry from a drawing by Mr. Waterhouse. Two of the best plates in the volume are taken from Amboise. One is a drawing of the grand old chateau taken from the bridge, and the other is of the beautiful little chapel in the garden, as seen from the street. The exterior of the Chateau of Chenonceaux, with its delicate towers and gables, which partly stands over the river Cher, and is associated with the names of Mary Queen of Scots, Diana of Poitiers, and Catherine de

Medicis, forms the subject of another etching, but it is a pity Mr. George did not give us one of the interiors. From Tours Mr. George selects "A group of old houses that have strangely been suffered to remain side by side as they first stood. The colour is rich and broken. The tall roofs are slated. In one house the deep-toned timber is filled in with red brick; in another with plaster; and in a third the walls are weather slated. At the angles of the projecting stones are rudely carved subjects, mostly scriptural." This view is spiritedly rendered, the blocks of quaint old houses being given with fine effect of light and shade. The next subjects are from Loches, which is on one of the branches of the Loire. Mr. George agrees with many other travellers in giving the palm to the Castle here for its "picturesque grandeur, romantic character, and historic associations." The last view on the Loire (or rather on the Maine) is of the Hôtel de Pincé, a picturesque chateau, which has been known as the Hôtel des Ducs d'Anjou, but which was erected by Pierre de Pincé, one of a family in high favour at the court of Francis I. "The house," says Mr. George, "is a characteristic example of the buildings of the time when a broken and Gothic outline was preserved after the introduction of pilasters, cornices, and classic mouldings."

Coming southwards, Mr. George next brings us to Cahors, on the road to Toulouse, and sketches a curious example of a fortified bridge, with three tall towers rising without buttress or break of any kind. An interior of the Cathedral of Toulouse forms an effective etching, the view being taken from the nave (which has a wide span of 62 feet) looking towards the flamboyant choir and aisles. The two etchings of the ruins of the Citadel of Circassonne form a striking contrast with that of Narbonne, showing the old houses rising above the canal with the Hôtel de Ville and the Cathedral towering over all. The old well in the Cloisters of the Church of St. Trophemas at Arles with its mouldings cut from the base of some classic column appears in the next etching, and the series closes with views of the Palace of the Popes at Avignon, and of the bridge and chapel of St. Benazet.

With pleasure we commend this volume to our readers. It will be found to be an advance on Mr. George's first volume. Seeing from these instances how successfully etching on copper may be accomplished when one can etch well on paper, we hope that many architects may be induced to follow Mr. George's example, and to take up this delightful and most useful art.

ECONOMIC GEOLOGY; OR, GEOLOGY IN ITS RELATIONS TO THE ARTS AND MANUFACTURES. By David Page, LL.D., F.G.S., &c. William Blackwood & Sons.

"As far as geology is concerned," says Mr. Page, "it has as yet but slenderly discharged its duty to the builder and architect. It has busied itself, and properly enough, with mapping out formations, making sections, and defining palæontological zones; but it has done comparatively little in the way of pointing out the economic materials in these formations, or of indicating their relative values and appropriateness for special industrial purposes." The truth of these remarks will be felt by any one who, while engaged in some or other of the branches of construction, has endeavoured to obtain information from books on geology which might be turned to use in practice. However diligently the treatises of such masters of the science as Lyell, Phillips, Jukes, and others may be studied, it is impossible to obtain a hint from them which may make every-day work easier. They suggest nothing which would enable durable stones or slates to be distinguished by the builder from those which commence to crumble away as soon as they are fixed in position.

But on the other hand it may be doubted whether it is possible for geologists to do more for us. Mr. Page says that until geological surveys indicate in some regular and systematic manner the mineral character of a rock, so that "some reliable inference can be drawn as to its fitness for building, for mortar, &c., they are only partially fulfilling their function." It is not our place to attempt to defend geologists against a geologist, but so far as building is concerned it seems to us that what Mr. Page desires can never be realised. What is required of stone in construction is durability, and as yet, as far as we know, no laws have been discovered which show a constant connection between the endurance of a stone and its characteristic minerals or fossils, the parts with which geologists are most concerned. Stones which, to all appearance, are alike will be found to differ in quality. In the same quarry it often happens that there is a difference in strength between the stones taken from adjoining beds, yet to the eyes of the geologist they would be similar. If an architect or a builder is doubtful about the stone he intends to use, the best thing to do, instead of trusting to scientific opinion, however comprehensive, will be to have the stone specially tested, chemically and mechanically, and, if the case so requires the tests should be repeated from time to time. What is likely to follow from trusting the judgment of geologists is seen by the present condition of some of the masonry in the Houses of Parliament. Since men first began to build, never was there so lengthened and elaborate an inquiry into the quality of stone as was made by the Commission for selecting the stone for that masonry. Yet a few years was sufficient to show how futile was all the labour. Builders have had means of their own in all ages for determining the character of stones; no doubt in numbers of instances they have been wrong; but, imperfect as may have been the rules, as yet geology has supplied none which can supersede them. With regard to chemistry the case is different, as that science may occasionally afford tests which can anticipate some of the effects to which stone, when used in building, is liable. The process for testing the durability of sandstone, discovered by M. Brard, and referred to by Mr. Page, is instance of this. Small cubes of the stone are boiled in a saturated solution of sulphate of soda, and then suspended for a few days in the open air. As they dry they become covered with an efflorescence of crystals which have to be removed. "If the stone resists the decomposing action of frost and damp, the salt does not force out any portions of the stone with it; on the other hand, if it yields to this action, small particles will be perceived to separate themselves, and the cube will gradually lose its angles and sharp edges. The amount of this disintegration affords, according to the author of the

process, a criterion of what would be produced in course of time by the action of the weather." Whatever may be the value of the test there is nothing empiric about it, and it indicates the position which science ought to take in order to give aid to practice; but what procedure purely geological can be suggested which is analogous to this? It may be said that all recipes like M. Brard's are in their proper place when brought out under the auspices of and endorsed by geologists; but the world has found that it is better for practical men always to go directly for information to specialists. As far, then, as building is concerned, it appears to us that geology, whether it is called scientific, practical, or economic, is likely to be of little avail. With other branches of industry the case is different. In mining operations, for instance, the inference which may be drawn from the occurrence of some small fossil shell can often save the expenditure of money, where there would be no return; but, unless we are mistaken, geology can afford little or no aid to those who, above all others, have to use the greatest variety of stones. We are not advocating that the study of the qualities of stone should be neglected, but what we maintain is that the knowledge most useful to those engaged in architecture and engineering must be derived from the experience of builders rather than from geological surveys.

It is to the credit of Mr. Page that in the volume which has given rise to these remarks, or rather in those chapters which refer to architecture and engineering, he has not followed the method of treatment usual with writers on geology, but has regarded stones from a practical standpoint. He has brought together a large quantity of information on the ordinary building stones, and on stones for decoration and sculpture, and for lime, cements, concretes, &c. The employment of stone in road-making, construction of railways, canals, docks, &c., is also treated. By confining himself principally to the stone found in England, and by good arrangement and concise expression, the chapters on architecture and engineering contain the pith of all that is known on the subject. The book, however, is intended for a wide circle of readers, as it treats in a similar style of geology in its relations to agriculture, land valuation, mining, pottery, medicine, metallurgy, &c. It can be recommended as a companion to all treatises on geology. A geological map, on a small scale, but comprehensive enough, accompanies the volume.



St. Stephen's Church, East Twickenham.

SIR,—Mr. Christian, I think, mistakes the purport of my appeal; I do not in any way "take him to task," but simply ask him as a brother architect not to stand by without protest while an evident wrong and flagrant act of injustice is done. He alone, beside the committee, can answer as to the truth or not of the published statement, which says the committee have in no way acted upon his report, and instead of being "guided" by it, have set it absolutely on one side; and I believe I may say certainly two other of the four competitors would have declined to send in drawings had it not been for the distinct promise of the committee to call in "a consulting" architect to advise with them. I cannot conceive why Mr. Christian should ask us to have stipulated that his report should be made public, seeing that in every moral sense we naturally concluded that this would, as a matter of course, be done, and that the committee would act in good faith up to what was evidently the true intent and meaning of their promise. The committee, through their honorary secretary—a barrister—chose to shelter themselves behind what may be perhaps their strict legal rights. Of course their decision is final; I am not contending to reverse it, but I am contending that the competitors are entitled to know the opinion of the professional gentleman called in to advise, and on whose opinion, as an expert, they were induced to rely, rather than on the various views of a number of amateurs. If not, why on our side was there the stipulation for an advising architect, or on their side the promise that one would be called in? If the committee have acted up to the spirit of their instructions, why hide the report? If not, surely Mr. Christian will forgive my asking him to stand by his professional brethren, and to give them at least the satisfaction of knowing his opinion of the merits of the various designs. Whether or no the result may be satisfactory to the committee, or to the subscribers who gave them office, is not the question. I ask Mr. Christian, not as a "disappointed competitor," but in the interests of art and of the profession of which he is so distinguished a member, to publish his award, and cannot believe that he will, on reconsideration, hold what I fully think the other competitors with myself looked forward to as a means of a competent and fair decision as "private and confidential."

Your obedient servant,

14, Fitzroy Square, W., Jan. 6, 1875.

ROBERT W. EASE, F.S.A.,

Subtle Curves in Vaulting and Elsewhere.

SIR,—A very interesting point has been touched upon in the course of the correspondence on vaulting, i.e. the double curve in ribs which, to a casual observer, are apparently struck from one centre. Mr. Spiers, in his letter of last week, mentions his acquaintance with Greek work, and justly remarks that the Greek architect would have seen no objection to the intro-

duction of a double curve in the diagonal ribs (provided it was so subtle as to elude observation) if necessary for constructional purposes. The italics are mine, and I would venture to add—for æsthetic consideration also. The Greeks, as is well known from Mr. Penrose's elaborate researches, nicely calculated the entasis of their columns, slightly arched all horizontal members, &c., and in their mouldings were precursors of the Medieval men in dislike to purely geometric mechanical outlines. I therefore quite agree with Mr. Spiers, that Mr. Statham's epithet "fudge," in connection with this subject, is objectionable, "for the double curve, unobserved except looked for, was perfectly justified artistically and scientifically."

I read, or heard some years since (unfortunately I cannot call to mind where), that the main arches in Westminster Abbey are not actually two-centred, though one could not fairly describe them four-centred. In examining them a day or two since I could not help thinking that those in the (fifteenth century) work of the nave are almost four-centred; while those in the choir and transept are apparently quicker in their curves (though not stilted) as they approach the abacus. The object of this may have been to obtain greater width half way up the arch, and also to allow some of the outer arch mouldings to sit on the abacus instead of abutting against the vaulting shafts. In Neale's work and Carter's "Ancient Architecture" there is no indication of these subtle curves, neither is it mentioned in the "Gleanings in Westminster Abbey." Nevertheless this fact is not conclusive, as minute testing may not have been applied.

In modern wood barrel ceilings it may often be convenient to use an almost imperceptible compound curve, so as to attach the boarding and ribs as much as possible directly to the rafters, collars, and braces, and thus save extraneous carpentry. A four-centred arch with fairly concave curves may be very pleasing (I recollect an instance in the gateway to an old manor-house where the mouldings are early bold rolls with deep quirk), and sometimes less stiff than a two-centred one. Everything of course, depends upon the taste and skill with which the curves are wedged together; some of the late Tudor straight-curved arches are ugly. Semi-circular arches have been used by Sir Gilbert Scott in the ground storey of the St. Pancras Terminus Hotel obviously as arches of construction, while pointed arches are adopted above. Whereas, according to Mr. Sharpe's theory, round arches (of decoration) would have been placed higher up. Semi-circular (or curves consisting of a segment of a semicircle) are a happy variation to the sameness of nothing but points—points everywhere (as instanced particularly in Scotland and Ireland in Medieval work). Apologising for the length, and apparent irrelevancy, of some portions of this letter, which yet seems naturally to grow out of the discussion on subtle curves, I remain, your obedient servant,

January 5, 1875.

EDMUND B. FRARY.

Improved Industrial Dwellings Company.

SIR,—Referring to the notice you have given relative to the awards that have been made with respect to the designs sent in to the above company for completion, we think it right to inform you that the authorship of the one which has gained the second premium is claimed by our client, Mr. Francis Butler.

We have written Mr. Banister Fletcher, whose name appears as the author, to admit the claim of our client, and have given him until tomorrow (Tuesday) to do so, and should he fail, a Bill in Chancery will at once be filed to restrain that gentleman from appropriating to his own use the work of a brother artist.

Your obedient servants,

9 Great James Street, Bedford Row,

SINGLTON & TATTERSHALL.

January 4, 1875.

NEW BUILDINGS AND RESTORATIONS.

Town Hall, Chorley.—On Saturday last the foundation stone of a new Town Hall was laid at Chorley by the High Sheriff of Lancashire. The building is designed by Messrs. Ladds & Powell, of London. The style is modern Gothic. The principal facade fronts Market Street, and includes four shops, with suites of offices above. The chief hall is 104 feet by 50 feet, and will accommodate about 1,200 persons. The cost is estimated at about 24,000*l*.

St. Paul's, Wandsworth.—This church has been enriched by the addition of a three-light subject window. The centre light is occupied with a representation of the Conversion of Saul, the two side lights containing groups of attendant soldiers. The window has traceried heads filled in with subjects, the centre containing the Saviour enthroned. The work was entirely carried out by Messrs. Cox & Sons, of Southampton Street, Strand.

Ashley Green Church, Chesham.—This new church, built from the designs of Mr. G. E. Street, R.A., was consecrated on December 31. It is in Early English style, the material being the black chipped flints of the neighbourhood, with Bath stone dressings. There is a bell turret, with two bells. The entrance is by a porch on the north side, the front of which is an oak-moulded archway, the timber framed in with red bricks, herring-boned. The nave is 50 feet long. The aisle on the south side is divided by an arcade of four arches. The chancel is 28 feet long, and separated from the nave by a stone screen, with tracery panels. There is a large arch opening into the organ chamber of the vestry. The east window has three lights, with polished marble shafts, under which is a string course, and under that the reredos, worked in Chesham stone. The pulpit is of Caen stone. The font is of Chesham stone. The floor of the chancel is laid with Godwin's tiles. The roof is of Memel fir, open-framed, with open tie-beams, and octagonal king-posts, covered with boarding. The seats are of yellow-stained deal. The chancel stalls, reading-desk, and altar-table are of oak. The archway between the aisle and vestry is an open-worked oak screen. The contractor is Mr. G. Cooper, of Aylesbury; the freestone work was executed by Mr. J. W. Cowles, of the same town. The total cost of the building, &c., was over 2,000*l*. The church has been built entirely at the cost of Miss Barrien, of Chilton, who has also endowed it at a total cost of 3,600*l*.

All Saints Church, Alton.—This church has lately been consecrated. The building is Early English, and consists of nave, transepts, and apsidal chancel, with sedilia; the design includes also a tower and spire, at present not undertaken for want of funds. The outer walls are of Selborne stone, flints being worked in and around the base, and the windows, &c., are faced with Bath stone dressings. The church is floored with encaustic tiles, and a hot-water apparatus is provided for heating. The cost has been about 3,000*l*. The architect is Mr. F. C. Dyer, of London, and the builders are Messrs. J. H. & E. Dyer, of Alton.

The Central Bank of London, in Blackfriars Road.—The new building at the corner of Blackfriars Road and Stamford Street, for the Central Bank of London, erected upon the site of two of the "haunted houses," completes the entire removal of the dilapidated structures. It has frontages to Blackfriars Road and Stamford Street, together with the entrance frontage at the angle of the thoroughfares. The Blackfriars elevation is 20 feet in width, and that to Stamford Street 29 feet, the frontage at the angle of the two streets being 11 feet wide. The ground-floor is in Portland stone, rusticated, and the upper storeys in red Fareham brick, with Portland stone dressings, the several elevations being relieved with white and black brick bands. In addition to the basement and ground-floor, the building contains two storeys and dormers. The ground-floor of the Blackfriars frontage has two bold segment-headed windows. The first-floor has a large three-light window with circular-arched headings, above which, and between each arch, is ornamental diaper work. The second-floor windows are also triplet, with stone capitals, springers, and mouldings, the arched headings being in red, white, and black brick. This is surmounted by a bold cornice, enriched with terra-cotta ornaments, and above a scroll of ornamental ironwork is carried across the face of the elevation, which is surmounted by a two-light pediment dormer. The Stamford Street frontage is uniform in its general design and character with that in Blackfriars, the variation being that the ground-floor has four windows, the first-floor two double circular arched windows, with a range of five windows above, and two double dormers. The building is approached by a portico entrance, 11 feet in width, at the angle of Blackfriars and Stamford Street, which projects seven feet beyond the main face of the elevation. Over the portico there is elaborately worked ornamental ironwork, in which the letters "C. B. L." are introduced, and at the foot of the second storey window there is a balcony projecting to the extent of three feet. The basement of the building contains the strong-room, an apartment 17 feet by 12 feet, which is arched over with fire brick, the walls being built with blue Staffordshire brick, three and a half bricks in thickness, strengthened by hoop iron bond introduced between each course. The ground-floor contains the banking-room, 22 feet square, and 17 feet 6 inches in height from floor to ceiling. The floor of this apartment will be laid with Minton's ornamental tiles. The manager's room immediately adjoins the banking-room. The upper portions of the building will contain the manager's residence. Mr. E. Nash, of Adelaide Buildings, London Bridge, is the architect, and Messrs. Rider & Sons, of Union Street, Borough, the builders, Mr. Fayee being the foreman of the works. The estimated cost of the building is upwards of 6,000*l*.

General

The Queen has received from the Emperor of Austria a portrait of the Empress, specially copied from a picture by Winterhalter.

Mr. A. Walton, architect, of Brecon, has issued an address to the electors of Stoke-upon-Trent. At the last election Mr. Walton polled between 5,000 and 6,000 votes.

Messrs. Osgood & Co., of Boston, U.S., have in the press translations of M. Viollet-le-Duc's "Dictionnaire," and "Entretiens."

Mr. Thomas Faed, R.A., has been elected Honorary Member of the Vienna Royal Academy, and his election has been approved by the Emperor of Austria.

Dr. Frederick Matz, the learned Professor of Archaeology in the University of Berlin, is dead.

The Emperor of Germany has conferred the Great Gold Medal of Art on the painters, F. Adam, Munich; Alma Tadema, London; and De Schampheleer, Brussels.

Mr. Lewis Angell, C.E., has presented a report (to) the Maidstone Local Board on the proposed drainage works. The cost of the works may be taken approximately at 30,000*l*., inclusive of main and outfall sewer, tanks and branch drainage, but not compensation for land.

Lord Derby has intimated to the United States Ambassador that the British Government will take part in the International Centennial celebration to be held in Philadelphia this year.

M. Gustave Levy, the engraver, well known for his renderings of Raphael's works, is preparing a plate after M. Couture's *Damocles*.

Earl Dudley proposes that a temporary building should be erected for the next Worcester Musical Festival, and that in the following interval of three years before the next Festival a music hall might be built.

The Bishop of Rochester has re-opened the church of Great Hallingbury, Essex, restored at a cost of 6,000*l*., mainly borne by Mr. John Archer Houbton.

Messrs. N. Chevalier and C. M'Kay Smith have been nominated a selection committee for the expenditure of a Parliamentary vote of the Government of New South Wales on modern works of art, it being the intention of that Government to gradually form a national collection for purposes of recreation and instruction.

The Exeter Heredes Appeal Case (*Phillipotts v. Boyd and Others*) is appointed to be heard by the Judicial Committee on the 19th inst.

The Queen has been graciously pleased to approve the Indian Civil Engineering College, Cooper-hill, being called "The Royal Indian Engineering College."

Walton-on-Thames Bridge, the only bridge over the Thames between Hampton Court and Chertsey, is in a dangerous state from want of proper repairs, and will soon become impassable. This arises from a dispute whether those repairs should be made at the cost of the County of Middlesex or Surrey.

The List of Petitions for private Bills for next session, just issued from the Commons, contains 262 applications.

The Committee appointed to report on the condition of Macdise's water-glass picture in the Royal Gallery at Westminster believe that experiments soon to be undertaken for its restoration will be successful.

By the Death of Lady Chantrey, a sum amounting to nearly 100,000*l*., which was left by Sir Francis Chantrey, the sculptor, becomes available for "the encouragement of British fine art in painting and sculpture only." The President of the Royal Academy is to receive 300*l*. a year out of the bequest.

The St. Stephen's Club, at the corner of the Victoria Embankment, and opposite the Clock Tower of the Houses of Parliament, will be opened on the 18th inst.

The Contribution of the City of London for this year towards the works carried out under the Metropolitan Board of Works has been fixed at 56,484*l*. 9*s*. 5*d*., necessitating a rate of 5*d*. in the pound. Two years ago the rate was only 2*d*.

An Application will be made, at the ensuing Hilary Term, to the Court of Queen's Bench calling upon the Bethnal Green Vestry to show cause why they refuse to carry out a resolution of a public meeting in favour of the adoption of the Public Libraries' Act.

The War Department intend to erect two additional Military Schools of large size at Chatham. The site of one will be near Upper Chatham Barracks, and of the other near the Married Quarters.

The Local Government Board are obtaining returns to show the estimated cost of all the sanitary works which were undertaken in England and Wales during the past year.

The Drapers' Company have presented twenty guineas to the Council of the Royal Architectural Museum, Tufton Street, Westminster, in aid of their drawing and modelling classes for art workmen.

The Rochester Bridge Wardens propose to expend 20,000*l*. in the erection of a new bridge over the Mersey in place of the old bridge if the Charity Commissioners approve of the project. The Corporation want the bridge to be constructed a few miles higher up the river.

The Bristol and Exeter Railway Company are already commencing the conversion of their broad gauge to a narrow gauge system.

The New Town Hall at Bournemouth was opened on Wednesday by Sir George Gervis.

The Cardiff Corporation are promoting a Bill for town improvements by which they will be authorised to expend over 700,000*l*. The estimated cost of the works is 359,401*l*.; and the purchase of the water and gas undertakings is put respectively at 200,000*l*. and 160,000*l*.

The Company formed to erect baths and an aquarium at Hastings have obtained a grant of part of the Esplanade at a nominal rent, and also a subsidy from the Town Council.

The Vicar of Brighton, in a sermon on Sunday last, referring to church architecture, stated that the benevolent churchmen of Brighton had, within the past thirty years, and upon six only of the twenty-one churches in the parish, expended no less than 70,000*l*.

A new School of Art at Lewes was formally opened to the students on Tuesday.

Beachy Head Lighthouse will, it is stated, be pulled down in consequence of sea encroachments, and replaced by a new lighthouse in a different position, or a floating lightship.

An Arrangement has been come to between the Birkenhead Commissioners and the Railway Companies, by which the proposed open cutting for an extension of the railway to Woodside Ferry will now be sanctioned, provided the place be walled round and roofed with glass to prevent the escape of smoke and steam.

The Prussian Government have purchased for the Berlin Museum, at the cost of 15,000*l*., the famous collection of ancient medals made by Count Prokesh-Osten at Vienna, containing some of the finest specimens of this branch of Greek art extant.

The Prefet of the Pas-de-Calais has issued an *arrêté* empowering M. Michel Chevalier, his colleagues and agents, to take possession of any lands in the commune of Ferques and three adjoining communes which they may require for carrying out works in connection with the projected Channel tunnel.

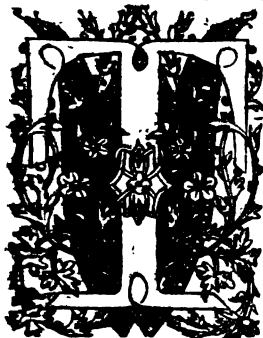
The Subscriptions to the fund for erecting the church of the Sacre Cœur, Montmartre, have reached 1,764,722 francs, or 70,600*l*.

The *Moniteur* has published some interesting statistics on the wages earned by different classes of working men in France. The highest wages fall to the lot of the ornamental sculptor, who earns 4*f*. 50*c*. per day in the provinces; the stone-cutter earns 3*f*. 48*c*. In Paris the ornamental sculptor earns 7*f*.; the metal-turner, 6*f*.; the stone-cutter, 6*f*. The average wage of the Parisian workman is 4*f*. 99*c*.

The Dhurbunga Railway, that was hastily constructed to meet the exigencies of the Indian famine, is to be made a permanent construction.

The Architect.

NUISANCES OF NOISE.



HE Londoner ought to be so well accustomed, one would think, to all kinds of sounds that they have ceased to be displeasing to his ear. What with the Babel of street cries, the rumble of heavy waggons, the "damnable iteration" of hurdy gurdies, the snort of the steam roller, and the rush of the railway train, he seems to have enough of tumult, chronic and acute, continuous and intermittent, to season him against nuisances of noise as effectually as human nature is capable of being seasoned against anything. And yet, as matter of fact, he is found to be easily offended when any noise happens to be introduced over the head of a contemptible attorney. A sausage machine is established next door to a retired schoolmaster. A steam engine on one occasion was actually set in motion on the other side of the wall of the *sacrum sanctorum* in which Mr. BABBAGE, of the calculating machine, pursued his studies. A carpenter's shop is comparatively a trifling instance. A blacksmith's, tinsmith's, copper-smith's is not much more. A substantial rattling sewing machine is not much less. Two or three pianofortes engaged in tuition beyond an average party wall may be called a matter of some moment. The performances of an earnest adolescent upon the cornet-a-piston after the bed time of the neighbours is almost as serious. The barking of a dog, the ringing of a bell, the kicking of a horse, the crowing of a cock, as everybody knows, have all been the subjects of costly actions at law. Bad language on the part of a parrot we might readily conceive to be so too, and the songs of the cobbler at his last if they happened to be "set to filthy tunes."

But as regards those nuisances of noise which belong to various kinds of everyday business in London, it must be acknowledged that they become not unfrequently a very substantial grievance; and how to deal with them it is not always easy to determine. There are two principles, however, which the general notions of ordinary people seem to have brought into something like the form of custom. In the first place, the complainant must not have come to the nuisance; the nuisance must have come to him. In the second place, the complaint must not be a palpably unneighbourly one. The law of the matter is not always precisely in accord with these maxims—the lawyers would have but little to do if people's common sense could arrive at a just conclusion so readily as this. But, be the law as it may, it has always to be borne in mind that the *fact* of the nuisance is a question for a jury; and thus it comes about in another way that popular opinion is enabled after all to make use of its own ideas in the end. In short, if a complainant is certain that he has such a case as must satisfy a jury that he is being substantially annoyed, then, so to speak, and not till then, is he justified in complaining; and if, on the contrary, a defendant is certain that the case is one which a jury cannot but reject as whimsical or ungenerous, then, and not till then, is he justified in defending. And it may be added that a question of such a kind of nuisance is not one in which the assiduity of a Serjeant Buzruz can be made of much avail, at any rate on behalf of the plaintiff. For the defendant, indeed, that learned and ingenious counsel may possibly do a good deal in the pooh-pooh line; the fastidiousness of the stuck-up neighbour is capable of being made sufficiently picturesque to become ridiculous; but the plaintiff suffers under the fundamental discouragement of being an ill-used man, and it is proverbial that the character of an ill-used man is one to be avoided, and in much more important matters than nuisances of noise.

Upon the question whether the nuisance has come to the neighbour or the neighbour to the nuisance, it must be manifest upon a moment's reflection that it would be too much to allow a nuisance to flourish for ever in an extending town because of a prescriptive right based upon its previous existence when there were no neighbours to feel the annoyance. As well might it be argued that a nuisance of smell should perpetuate its pestilent fragrance because it is old. No doubt there is to a certain extent a sort of reasonableness in the idea that they who come to the nuisance may leave it if they do not like it; but probably it is enough to reply that, if an adjoining property is prevented from being developed into profit by the existence of the nuisance, it is the nuisance that must quit. The clangour of a copper-smith's workshop, therefore, however harmless it may have been when in the midst of a multitude of equal and opposite influences of sound, or when surrounded by the squalid habitations of people who have no nerves known to the law, must be looked upon in a very different light when a church and a school are built close at hand, and the dust yard and cow houses have given place to rows of genteel semi-detached villas whose little front gardens are gaily bloom-

ing with tom-thumbs and mignonette. So also that most amiable but most exasperating of abominations, the practising of scales all day long on the other side of a thin party wall, can scarcely be defended against a new tenant because the old one also was driven to distraction by it and thus made way for another victim.

To turn to the question of unneighbourliness in the complaint, we may be said to leave law altogether, and even the semblance of law, for the most commonplace of common sense. There is a certain maxim in the kind of law called Equity that he who seeks justice must do justice, and that he who complains of another man that he has not clean hands must have his own hands clean. It is scarcely a free translation of this when people hold that a neighbour who claims consideration should show consideration; and in cases of nuisances of noise more than most other things of the kind it really seems to be very fair to expect that he who would compel his neighbour to be neighbourly should not be unneighbourly himself. Anything like arbitrary or imperious, or even querulous behaviour, therefore, on the part of the complainant, is a thing to be most carefully avoided. We need scarcely say that it is not always easy to avoid it. The astute person called one's solicitor is usually expert enough in avoiding the appearance of such a thing, but even the going immediately to one's solicitor for the very purpose of not committing one's self may be buffuzzed upon to a wonderful degree. "What does this plaintiff do, gentlemen? Without one word of neighbourly conference—without one effort at conciliation—without, gentlemen, giving my client a single chance of doing what he would have been only too anxious to do—he bounces off to his attorney! Is *this* the way, gentlemen, that *you* would like to be treated?" But, on the other side of the case, if the defendant can be shown to have got on his high horse inconsiderately, or to have attempted to shuffle or finesse away a grievance modestly complained of, woe none the less to him! There is, in fact, nothing else so difficult to manage as a quarrel between neighbours; and if the quarrel happens to be about such a thing as a nuisance of noise, never a very tangible sorrow at the best, so much the greater difficulty is there in dealing with it on both sides.

But probably the chief consideration in such cases is purely and simply the condition of reference to a jury. It is not too much to say that upon the accidental composition of the jury, more than anything else, depends the whole issue of the trial. To submit the case to an arbitrator is a most hazardous alternative. If he be a lawyer it is impossible to say what view he will take of some dry point of abstract law before unsuspected. If he be not a lawyer, all will depend upon whether he himself is a nuisance-sufferer or a nuisance-maker. The wisdom of twelve men in a box is after all the safest influence to rely upon; and yet, if the advocacy on both sides should happen to be managed with equal tact, who shall say that the decision does not go upon the simple ground of some leading jurymen happening to have a kicking horse not on one side of his party wall, but on the other, or upon the circumstance of his having to defend a brass-finishing shop of his own, or to attack a dog that howls to the moon, or a cock that crows in the morn, three doors off?

The advice we have to offer as a winding-up may not appear to be very definite in its nature, or very novel in its principles, but it is none the less sound on those accounts. Any person whose business requires the setting up of a new noise—as in the working of an engine, for instance, the percussion of a printing press, the clang of an anvil, or what not—will do wisely to consult his neighbour in good time beforehand. If he can induce him to call in a prudent expert adviser—generally an architect in any question that concerns a house—so much the better; this leads to an endeavour to consider the difficulty intelligently at any rate; and an intelligent consideration of a difficulty is the first step towards its solution, just as its amicable consideration is the first step towards its adjustment. It is always essential also that both neighbours should agree from the first to the principle of giving and taking. This, it must be remembered, is practically the law of the matter, because it is invariably the prejudice of a jury. People cannot expect to enjoy the benefits, whatever they may be, of town residence or town business, without the risk of incurring now and then certain corresponding disadvantages; and unwelcome noises are certainly not amongst the worst of these contingencies. Moreover, the resources of science, and even the empirical contrivances of common sense, can effect much more in diminishing or disguising noise than most people would believe possible. The very worst thing that can be done is to plunge into litigation; a twopenny-halfpenny grievance, when nourished in the mephitic atmosphere of an attorney's office, assumes a distorted magnitude and an illusive hue which only fascinate both litigants to their ruin. When it is all too late, they remember a little maxim of childhood, and wish they had thought of it sooner—Bear and forbear.

EXHIBITION OF OLD MASTERS.—II.

IN Gallery IV., devoted chiefly to works of the Italian school, no picture attracts more notice than the singular composition by COSIMO ROSSELLI (181). It seems pretty much agreed among critics that this is the painting mentioned by VASARI as being "in the chapel of the silk weavers in the church of San Marco at Florence." His description tallies pretty exactly: "in the centre is the Holy Cross, and on either side are San Marco, San Giovanni Evangelista, Sant Antonino, Archbishop of Florence, and other figures."

the only slip is the placing of Evangelista, instead of Battista, after St. John's name; the Baptist in camel's hair, with the traditional cross and scroll being unmistakably represented. The "other figures" are angels and cherubs. The treatment altogether is so unusual for the period, that it is a little odd VASARI does not enter more into detail. CHRIST, extended against a black cross, the arms of which terminate in trefoils, is robed in dark priestly vestments, with jewelled girdle and crown, and one foot rests upon the sacramental chalice; the saints, with their various attributes, stand or kneel around, scarlet-winged cherubim flutter in the glory about the central figure, and angels worship or scatter flowers. ROSELLI, it is supposed, was apt to force up his pictures by gorgeous colour and gold to conceal their shortcomings, and this panel must, when fresh, have been rather gaudy, yet dull. Indeed, the picture is more remarkable for the treatment of the subject than for artistic qualities. ROSELLI, who at first may have been a far off follower of FRA ANGELICO, worked, it is conjectured, under the influence of GOZZOLI, after GOZZOLI had forsaken his own first imitation of the trade. ROSELLI was born in 1439, and his will was proved in 1506.

We stated last week our inability to assign to FRA ANGELICO the large picture (187) which hangs as pendant to the ROSELLI, and comes likewise from Mr. FULLER MAITLAND's collection. It is to us impossible to trace in anywise the treatment, forms, or execution of ANGELICO, while in all particulars the work approves itself as a good specimen of the later spiritual school of Siena. The composition is a favourite one with FUNGAI, DELLA PACCHIA, MATTEO DI GIOVANNI, and their contemporaries. The somewhat fantastic types of form and face in the angels belong to Siena, and not at all to the suave serenity and graceful curves of ANGELICO and his imitators. The colour is Sienese, the Virgin seated on clouds within an iridescent "Mandorla," upheld by angels, adores with hands folded palm against palm. Her drapery is white, the inner vestment shaded with pearl grey and embossed with gold, the mantle inclining to a pinkish lilac. The open flower-filled tomb below is built in squares of red and white marble; the landscape behind is of the clay-coloured rock that abounds in the vicinity of Siena, and is familiar in much of the local art. The saints, who kneel in front of the tomb, have soft and ill-drawn extremities, and several of the angels are badly foreshortened and angular, faults more incident to the work of a Sienese of the second order than to ANGELICO. The use and treatment of gold is also characteristic, but is not carried to the extreme common to the earlier painters of Siena, whose decorative embossed gold backgrounds, gold nimbi, graven and glazed with colour, and profuse use, one might say of gold in the solid, on robes and ornaments, forced into the greater contrast the pathetic sweetness of their human types. This picture of Mr. MAITLAND's does not lose in interest if we credit it to Siena, for England is poor in examples of the school.

The circular panel attributed to FRA LIPPI (184) is certainly strange enough to be one of the erratic painter's freaks. A crowd of beasts, birds, men, women, and children file down the hill, and crowd about a stable door, where grooms are currying horses, and in front of which the Virgin holds the Holy Infant for adoration. The drawing is careless even beyond the common practice of FRA LIPPI. The colour belongs to his earlier style; it is brighter and purer than late work. The squat figures bear faces of distorted feature. If by FRA FILIPPO LIPPI, and not by PESELLO or PESELLINO, as some surmise, it is wanting in the largeness and the imaginative fire which are his greatest characteristics. The remaining contents of this room we have already indicated to some extent. The nude, half-length study of an archer, called an imaginary portrait of *William Tell*, by HOLBEIN (167), is striking for its careful, delicate execution, and the wonderfully realistic presentation of the thin-lipped, red-haired, lighted-eyed man, who was probably a model for some figure in a St. Sebastian martyrdom. Whether by HOLBEIN or from an Italian hand, as some critics opine, this is a masterly study. By way of contrast may be mentioned the pulpy, emasculate *St. Sebastian*, (178), which even high authority insists on forcing down our throats as an early RAPHAEL. It is amazing what strange aberration seizes the collectors of "old masters" to swallow such baits. The pictures might at any rate be left to speak for themselves: as Mr. GRAHAM leaves the *Garden of Souls* (173), a pretty quaint subject picture, from the early Venetian school.

Venetian pictures are few. EARL YARBOROUGH's replica, or copy of TITIAN's *Supper at Emmaus* (125), it is difficult to pronounce upon; three other replicas exist, at Naples, Paris, and Dublin. The landscape, in early editions of the catalogue mis-titled, *Venetian Youth and Lady* (127), is a grand episode of mountain and storm cloud that may well be a study by TITIAN for a background to some classic legend. The two portraits by TINTORET (123, 129) have suffered from restoration, but the broad sweep of the brush tells yet in the crimson draperies of both, and the head of the younger is a splendid study. Mr. BOYCE sends a little replica of the BELLINI *Portrait of Doge Loredano*, in the National Gallery (119), and Mr. PRIGOTT yet another study for the *Peter Martyr*. Mr. COOK is the lender of a good head by BELTRAFFIO (171). To represent the school of Milan we have only a painfully weak *Baptism of Christ*, attributed to LUINI (190), which has all the sweetness and softness of the DA VINCI types exaggerated into feeble and simpering sentimentality. We must pass from Italy by way of the interesting allegorical picture by the Ferrarese DOSSO DOSSI, belonging to Mr. GRAHAM (167), and the old favourites CANALETTO and GUARDI. It is long since we have so

beautiful a specimen of CANALETTO as the *View in Verona* (179), from Mr. SLOANE STANLEY.

In the central gallery we find ourselves amongst a noble company of portraits. Portraiture indeed is bound to be the source from which the most reliable ancient pictures are gathered; such works have traditional or documentary evidence of the surest kind; they do not pass frequently from hand to hand; their very subjects contain inherent testimony to their authenticity. The finest works in this exhibition are portraits; foremost may be placed that of the little *Infante Don Balthazar Carlos* (132) by VELASQUEZ, lent by the Duke of ABERCORN, one of the noblest works of the master ever hung within the Academy walls. The power of VELASQUEZ is felt in every line of the childish figure planted so firmly on the ground, and looking the more chubby and innocent for the manly hunting suit, gun and sword, and high boots. The face has suffered from skinning, but VELASQUEZ's magnificent bravura touch is fresh as though of yesterday in the hands of the child, and in the study of the sleeping hound and the two alert spaniels, *un grand chicqueur*, a Frenchman might rechristen VELASQUEZ when looking at this characteristic work. The companion picture lent by Her MAJESTY, a portrait of PHILIP IV. as a boy (121), is especially attractive in the rich harmonies of the crimson and gold tissue sword-scarf, and the polished armour, but though spirited is scarcely equal to the Duke of ABERCORN's picture. A half-length study of PHILIP IV.'s second wife, lent by Mr. BRABAZON (154), is hung too high to be properly seen; it appears to be in genuine condition. The *Virgin in Adoration* (198), from the MILES collection, is of course mis-called by VELASQUEZ.

The name of REMBRANDT stands against three pictures, but, without risk of contradiction, we may omit from the list the uncouth and feebly-handled *Deposition* (153), with its feline types and exaggerated attitudes, as the work of a scholar. The true touch of the master is in the inimitable *Old Lady* (157), whose wrinkled face and hands seem familiar as those of an often-welcomed guest. How much finer REMBRANDT was in portraiture than in subject pictures every collection of his pictures shows; even the precious gathering at Cassel. From REMBRANDT to FRANK HALS is one step, and here we have the fine portrait of a sturdy citizen in black velvet and satin (142), done after HALS' best manner—trenchant, well-considered, honest. VANDYKE takes us into a different atmosphere; honest is about the last word one would apply to his work or his subjects. Not that he was false, but mannered; and the ladies and patricians that he painted are mannered to, not hypocritical, but simply wearing the habit of an unemotional exterior as gracefully and easily as an embroidered glove. His ladies especially are always *en grand tenue*, and seem always ready to utter some stately welcome or sweet courtly nothing from their set, smiling mouths.

None of the female portraits this year quite equal some of former exhibitions, though the Duchess of HAMILTON is magnificent in her myrtle satin and sables (149), and Lady WENTWORTH's unfeeling face (109) presides over a presence of much elegant pride. The male portraits, on the contrary, are very fine; the half length of the Duke of RICHMOND (85), in white shirt holding a pomegranate, is a subtle study of character. Cool aristocratic nonchalance and quiet resolve are united in this pale, chivalrous face of delicate features and silky light hair, with the deliberate cunning of a master hand. This picture belongs to the Earl of BRISTOL. EARL DENBIGH has a splendid full length of the same nobleman, caressed by the great hound who saved his life from murderers by waking him. This Duke of RICHMOND and LENNOX was one of the four cavaliers who offered to die in place of their king, CHARLES I.; he went abroad after the regicide and died of a broken heart, it is said.

Then we have STRAFFORD, with his grim, shut mouth, large head, and small limbs and feet, set daintily on the ground. The hands seem over long and taper for the general type, but VANDYKE was too mannered with hands to be trusted. There is a wonderfully characteristic hand, though, in the portrait of *An Artist* (141), who, rising alert to greet some visitor, grasps the corner of the chair with his long, plastic fingers. The portrait of Archbishop LAUD has almost the look of a caricature, which is impossible from the courtly VANDYKE; yet the inflamed countenance, the obstinate mouth, the high Gothic arch eyebrows and full eyeballs proclaim a bigot faithful to death more plainly than any words. The study of EARL ESSEX, by SIR ANTONIO MORE (161), we have mentioned before. A splendid piece of skilled literalism it is, from the observant, suspicious, hazel eyes and narrow forehead, to the soft, retreating mouth under a sandy moustache and the soft, loosely-knit hands.

REYNOLDS is always in force in the Old Masters' Exhibition; it is as though there was an inexhaustible supply in England of his gracious likenesses of our grandfathers and grandmothers. The GREY portraits have bleached terribly, but elegant *Colonel Courtemaker* (159) might have been painted yesterday leaning against his big bay horse, and here is dainty *Mrs. Pelham* (108), feeding her chickens, with delightful curve of arms and poise of slender neck; and little *Lady Scott* (43), blinking her sharp black eyes under a big hat; and childish *Lady Fitzpatrick* (73), standing with close set little feet and timid bright face on a round clump of grass, as if she had just been dropped down upon this round world and was meditating her *premier pas* therein. These and many others (there are twenty-five) keep warm one's heart to the greatest colourist and most kindly artist England has yet had to boast. GAINSBOROUGH still divides the honours with REYNOLDS; ten

of his portraits are hung this year. The multitude cannot resist the smiles of the *Two Sisters* (12), for whom some two or three thousand pounds apiece was thought not too much by their owner, Mr. GRAHAM. In pearly tone and finish, just left at the right point, *Mrs. Carr* (88), is in GAINSBOROUGH'S best mood. But as a perfect artistic whole, we should choose out the faded beauty *Mary, Duchess of Montagu* (156), so elegant and worn, like some exotic flower withered on the stalk. She sits up in her blue and white draperies, with the still white slim hands clasped in her lap, mournfully, almost sternly, conscious of the charms of her beautiful prime long past.

Again, among the seven pictures by ROMNEY, we should unhesitatingly choose the bust portrait called the *Parson's Daughter* (296), which seems to have all the sweetness with none of the meretricious brilliance of the painter's beauties. *The Lady* (26), lent by Lord CARLINGFORD, is also bewitching, but very chiefly so by reason of the quaintness of her big bonnet. The artist's hand is comparatively feeble in the painting.

HOGARTH will bring our notice to a full stop for this week. *Calais Gate* (28) seems to have undergone some frightful cooking at restorers' hands since we saw it last. But here in Gallery I. the fat friar makes his oration over the beef as of yore, and HOGARTH takes notes with the bailiff's hand on his shoulder. Just above hangs that splendid free-hand sketch of the *Shrimp Girl* (31), from the MILES' collection, and in the next room, at the very antipodes in subject and manner, the deliberate and masterly study of the murderess *Sarah Malcolm* (71), who wears the badge of her crime in her cruel mouth and unflinching, watchful eyes. Most interesting, too, is the sketch of a *Country Dance*, which HOGARTH engraved in the "Analysis of Beauty," but without the man wiping his hot face at the open window. Apart from any theoretical use of the composition the artistic piquancy of the scene is inimitable.

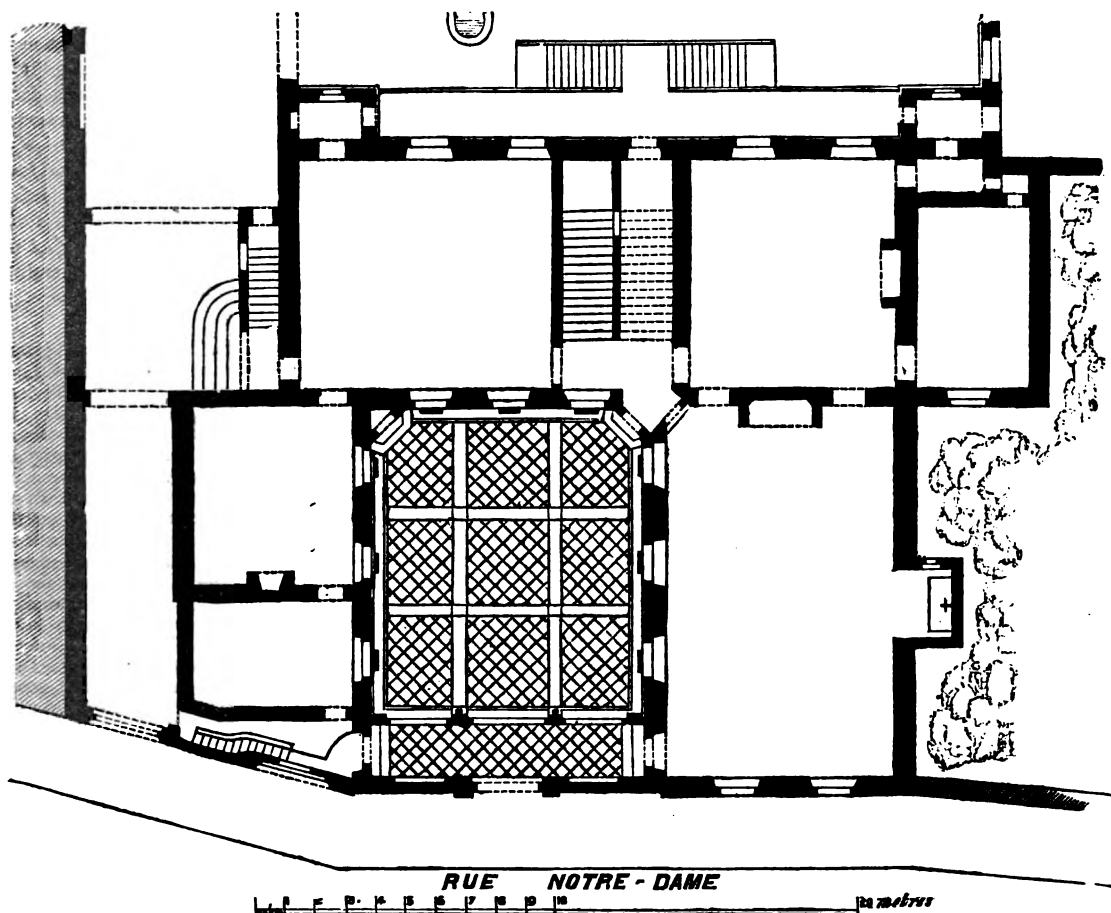
TYPES OF FRENCH ARCHITECTURE.*

IT is perhaps not generally known that in the Rue Notre Dame at Dijon there is an apse—remnant of a mediæval church—which is thought by a few competent critics to be, after the Parthenon, the most logical and beautiful piece of construction in the world. Close

to it, in the same street, is a curious, and, to lovers of historical contrasts, equally interesting building erected during the early years of the seventeenth century. Of neither work are the names of the architects recorded. If the first is due to a community of men, workers of architecture by tradition and natural laws of development, the second is possibly the result of amateur study and research. The first is built in a true style at a period when building was a "technic art;" the second is built in a false style when building was a "phonetic art;" and nowhere can the difference between architecture before and after the Reformation—as Mr. FERGUSSON has described it—be better seen than in these two buildings which still grace the capital of the old Duchy of Burgundy.

The style of the Hotel de Vogué is what is known to Frenchmen as the "Louis Treize;" and perhaps there are few works in France of the same character as varied in details, nor as well preserved, after the attacks of ignorance and revolution, as this one. Now the property of a family amongst whose members is a well-known archæologist and brilliant writer, no one better than he could describe the history of its origin, more especially as there is very little in Dijon itself to throw light upon the authorship of a remarkable historical monument. When, therefore, M. CLAUDE SAUVAGEOT undertook the task of committing to paper the plans, sections and elevations of the Hotel de Vogué he obtained what information is extant concerning the building from the Count MELCHIOR DE VOUGÉ, the author of the *Eglises de la Terre Sainte*. It would appear from a published letter written by this gentleman that the architect of the hotel—now known as that of De Vogué—was its owner, ESTIENNE BOUHIER, a councillor in the Parliament of Burgundy from 1607 to 1635; and in a note printed at the end of a *Dissertation sur Hérodote* published at Dijon in 1746, the President BOUHIER† wrote that ESTIENNE joined to the passion of books that of the arts of design; that he travelled through Italy, and thus acquired an "exquisite taste" for architecture; and that the large Hospital of Dijon was built in 1630 from his designs, which "I saw traced with his own hand."

Unfortunately the geometrical elevation of such a front as that which faces the Rue Notre Dame does not give an adequate representation of it; and a reference to the plan is therefore absolutely necessary in order to understand it.



Here is a striking instance of the unavoidably deceptive nature of even a geometrical drawing; for were the street front of the Hotel de Vogué drawn in "perspective," or, as it would really appear when looked at from a certain station point, it would present a totally different effect than when drawn in "elevation," or, as it can never by any possibility appear to anyone at any station point whatsoever. The face of the central portion, marked by a broad shadow, stands back

nearly 50 feet from the face of the right hand wing; while the front wall of the left hand wing is not at right angles with its lateral wall looking upon the courtyard, but, on the contrary, forms an acute angle of a most inartistic description. M. SAUVAGEOT, excusably influenced by what is known amongst architects as a Classical education, implies that the building really consists of plain walls without

* See Illustrations.

† See Fergusson's History, Vol. III., pp. 17-24.

† The President Bouhier was the great grandson of Etienne Bouhier.

mouldings or ornaments pierced with happily arranged and richly decorated holes without any artistic connection between them. But he very justly points to the portico as a unique example, and one which, though it has been several times copied in Dijon, has not been since made into a covered passage. That of the Hotel de Vogué is the most richly ornamented portion of the whole habitation. The courtyard, of which it is the entrance, was obviously never intended for carriages, and so in the eighteenth century it was found necessary to make an entrance to the *cour commune*, and the portion afterwards devoted to the coach-houses. Before then, instead of two circular arches, there were two window openings on the ground-floor of the left hand wing, exactly similar to those of the right hand wing. We have published the upper parts of these ground-floor windows as they existed before the great Revolution, when all insignia and coats of arms were ruthlessly obliterated by the Republicans with a zeal more excusable than that which a few years ago enabled their descendants to rub out the Second Empire from the walls of the New Opera House. This arcaded portico, seen from the inside, is small and delicate both in design and workmanship. The columns are a little more than an English, or about a French, foot in diameter at the base of their shafts, which, to about a third of their height, are charmingly entwined with branches of vine. Upon their pedestals two branches of palm are cut in the face of the stones, and in the centre is a monogram of three letters—B, M, G. This monogram, which also occurs upon the keystones of the arches in the same portico, refers to the original owner and his two wives—BOUHIER, Massol, and GIBOUD—which accords, says M. DE VOGUÉ, with the date, 1814, inscribed under the escutcheon of BOUHIER on the chimney-piece of the *Salle des Gardes*. Perhaps the most charming and really rational bit of a charmingly irrational composition is the flat stone ceiling running the whole length of the portico, and composed of thin slabs of stone resting upon a stone cornice—exactly like the ceilings of an Indian verandah in the old palaces of Delhi and Agra. These slabs are not decorated as they would have been at an earlier date with paintings. Exposed to the open air colour would have quickly deteriorated, so the surface of the stone was cut into squares, circles, and diamonds, which were enclosed in an incised border of Italian pattern. These slabs appear to have been covered with lead, and two small gargoyles drain the "flat," above which forms an open passage from one wing of the building to the other. Nor is the courtyard less charming in general effect than its arcaded portico, although it is less profusely adorned with sculpture and carving. It presents an early specimen of that kind of design, one of the rules of which is to produce, wherever possible, a *motif milieu*. Given a front with three window openings in it, only the centre one should be crowned with a pediment. The rain may fall mercilessly upon all three, the sun may cast its rays indiscriminately upon each, but only the central opening is to be protected, and consequently ornamented with console, cornice, garland, or decapitated head. At the extremity of the courtyard, and in each corner of it, is a porch placed in the angle formed by the intersecting walls, and one of these is a sham. The other is the principal entrance to the building—although there is an entrance from the portico into the *Salle des Gardes*—and once through the narrow porch the visitor finds himself immediately at the foot of the principal stairs. The staircase windows, though, are not made to range with those of the apartments, but form in themselves the *motif milieu*, carved and pedimented, of the back façade, which is covered with a coat of stucco. The angles of the doors and windows in the same façade are built of dressed stone, and the dormers and small towers of the same material enriched.

The exaggerated forms and profuse ornaments with which the builders of the preceding century had clothed their chimney shafts, and the leadflats which were fashionable when the earlier chateaux of the Loire were being erected, did not commend themselves even to a man seduced as BOUHIER evidently was by a little learning in native architecture, and a great deal of acquaintance with Italian cities. He maintained the sharply-pointed roof—consecrated by centuries of building traditions not only in Burgundy but throughout Western Europe—and this he covered with glazed tiles of variegated colours, made of the clay which is still known as the best in France for the manufacture of bricks and tiles. The brilliant tints, violet, red, green, and yellow, of this tiled roof have been fortunately softened by the influence of time; and to our mind they could be beautiful in such a position nowhere except under the skies of Cairo or Algiers, and the native cities of the East.

Perhaps the link which bound the architecture of the sixteenth, seventeenth, and eighteenth centuries to that of the middle ages, had something stronger and more tangible about it than those who deny all post-reformation art are usually willing to admit. If this link was not completely broken until the French Revolution, it was probably due in a great measure to the powerful influence which France until that time had exercised over the arts of her immediate neighbours. In the Hotel de Vogué, as in the Chateau de Chambord and as in the Palace of Versailles, everything was "in style;" both externally and internally, in spite of many shams, there was more or less harmony. The forms of the furniture corresponded with those of the windows and doors; the *immeuble* and *meuble* appeared to have been designed by men of the same school, and to have formed, in spite of false principle, a harmonious whole. The lantern, which is said to have swung for two centuries on the stair-

case at the Hotel de Vogué, is of a material not less commonplace than *fer blanc*; the well at the back of the hotel is of ordinary shape, and both lantern and well not only harmonise with each other, but also with the building of which they form a part. The coat of arms which was carved over the ground-floor windows, the head and garlands which adorned the windows of the upper floor, were "balanced" by similar insignia and heads of proportionate size which adorned the cabinets of one room, the heavy bedsteads of another, the shelves and bookcases of a third. It was only after the French Revolution that the repetition of artistic revivals, by introducing several styles or fashions of several countries, both near to and distant from our western shores, left none to which even the oldest inhabitant could cling. But ESTIENNE BOUHIER, though he had travelled much, does not seem to have been anxious about convincing his guests that he had swam in a gondola. Though his details are Italian the body of the work is essentially French.

It may well be assumed that he would have been horrified at the mere suggestion of doing what many modern Frenchmen have actually ordered their architects to carry out for them—to make the shell of a new house in the Gothic style, and the interior of it of divers patterns and fashions of architecture, such as a Renaissance drawing room, a picture gallery in the style of Louis XIV., bedrooms in that of Louis XVI., and a dining-room, which would have the advantage of harmonising with the exterior, in the style *Gothique*, while the porter's lodge, with twisted chimneys, distorted gables, and triangular openings, which were supposed to impress the traveller with memories of perfidious Albion, was to represent the latest example of the style *cottage*, reimported into fair France from the now hospitable shores of Britain. Whether practical common-sense Englishmen have ever been guilty of similar folly has nothing to do with the subject of our article.

EXTENSION OF THE EDINBURGH UNIVERSITY BUILDINGS.

WE have already stated that the authorities of the Edinburgh University had applied to certain architects to prepare designs for the extension of the University buildings, and that Messrs. Peddie & Kinnear, Messrs. Wardrop & Reid, Mr. Robert Anderson, Mr. David Cousin, and Mr. John Lessels accepted the application—the two last-mentioned gentlemen preferring to submit a joint design. The buildings it is proposed to erect are to comprise a medical school, with accommodation and classrooms for the different departments, an anatomical museum, and lecture theatre. There is to be also a college hall, with galleries on three sides, capable of seating about 2,000 persons, with a platform and orchestra on the fourth side to seat 300 more. In the instructions elaborate ornamentation was discouraged, and a limit of 70,000*l.*, exclusive of fittings, was fixed as the outlay. The original understanding was that the plans should be lodged by December 1; but, at the request of the architects, an additional month was allowed, and accordingly the four competing designs were deposited on January 1.

The *Scotsman* says that Messrs. Peddie & Kinnear's ground plan shows a central court, round which the various departments of the medical faculty are ranged. The college hall is placed on the line of Teviot Row, where it forms a feature in the frontage. With one ground plan these architects have submitted alternative elevations, one set being in the Gothic and the other in the Classical or Italian style. Messrs. Cousin & Lessels have adopted the Italian style in its Venetian type, and a prominent feature in their design is a large dome surmounting the college hall, which is brought forward to Teviot Row. They place their quadrangle on the east side of the ground, and group their buildings mainly to the north and west of it; and, besides the ground plan adjusted to the area as proposed, they submit an alternative design for extending the buildings over the solum of Park Place, in the event of that being acquired by the University. Mr. Anderson has arranged his buildings round a courtyard, with the college hall at the north-east corner. The style of architecture is Early Italian, and a campanile tower forms a conspicuous feature in the external aspect of the design. Messrs. Wardrop & Reid have, we understand, adopted the Gothic style for their elevations.

The plans have, it is understood, been examined by the members of the acting committee, and a meeting of committee was held, at which every member was present, for the purpose of considering the steps to be taken in regard to them. Finding it impossible to decide on the relative merits of the designs without first having the details of each carefully gone into, the committee resolved—1. That certain of their members be appointed a sub-committee, to report in writing upon the comparative merits of the ground plans of the competing architects, with respect to the suitability of the arrangements for the scientific requirements of the medical faculty, and that this sub-committee be requested to obtain and embody in their report the written opinion of professors in the medical faculty, who are not members of the acting committee, in regard to the various arrangements proposed for their respective departments. 2. That a sub-committee, consisting of certain other members of committee, be appointed to report in writing upon the comparative merits of the plans for a University Hall, and also on the general disposition of the buildings proposed by the architects, but without reference to the external architectural elevations. The committee have been strongly impressed with the evidence borne by all the plans of the great pains and labour which their several authors have bestowed upon the subject in hand.

CO-OPERATION IN DESIGNS.

IN our last number we published a letter from the solicitors of Mr. Francis Butler, of Great James Street, Bedford Row, in which it was stated that proceedings were likely to be taken against Mr. Banister Fletcher, who had obtained the second premium from the Improved Industrial Dwellings Company in the late competition, through designs which it was alleged were the work of Mr. Butler. On Monday last the case (*Butler v. the Improved Industrial Dwellings Company, Limited, and Banister Fletcher*) was heard in the Court of Chancery, before Vice-Chancellor Malins, in the form of a motion on behalf of Mr. Francis Butler, architect, of Great James Street, Bedford Row, to restrain the exhibition at the Mansion House or elsewhere of certain plans under the sole name of Mr. Banister Fletcher. The plaintiff in the bill filed by him stated that the "Improved Industrial Dwellings Company (Limited)" were a company incorporated under the auspices of Sir Sidney Waterlow, M.P., late Lord Mayor of London, and had for their object the erection of improved dwellings for the industrial classes. Mr. Banister Fletcher was a surveyor carrying on business at 32 Poultry. In May, 1874, the company issued instructions to architects relative to designs for dwellings for the industrial classes to be erected in Goswell Road, with the object of obtaining tenders for such designs from the profession, and by the eighth of such instructions the directors, whose decision was to be final, bound themselves to award premiums of 260*l.* and 150*l.* to the authors of the two designs selected, such premiums to be compensation in full to each of the successful competitors, whose designs, with the description, were to become the absolute property of the company. The announcement was made in the journals, specially addressed to the architectural profession, and the plaintiff stated that he thereupon applied to the company and obtained a printed copy of the instructions. Mr. Banister Fletcher also became aware of the intention of the company, and, apart from and irrespective of the plaintiff, also obtained a copy of the instructions. Shortly afterwards Mr. Fletcher had an interview with the plaintiff, and, stating that his time was wholly occupied in his business of a surveyor, but being anxious also to be known as an architect, suggested to the plaintiff that he should prepare plans, elevations, sections, estimates, and description, with all necessary details, and submit the same to him (Mr. Fletcher), and that after such submission the plans should be furnished in their joint names and as their joint production. The plaintiff accepted this suggestion, and the question of expense having to be considered, a rough estimate of the cost of preparing the necessary details was made and fixed at 40*l.*; the following agreement, hastily sketched out by Mr. Fletcher, being signed by the plaintiff:—

"The terms of our arrangement as to the competition of the Improved Industrial Dwellings are as follows:—I am to prepare all the drawings by myself, or with such assistance as may be necessary, at 20*l.* if unsuccessful; but should you obtain the first prize, 125*l.* is then to be paid to me in lieu of the 20*l.* If you obtain the second prize, then 85*l.* is to be paid to me in full for all my services and those I employ."

Acting upon such agreement, the plaintiff stated that he prepared the whole of the plans, elevations, &c., the idea and design thereof emanating from and being entirely the invention of the plaintiff alone. Having prepared such plans, &c., and perfected the same to a certain point, the plaintiff on October 25, 1874, wrote to Mr. Fletcher as follows:—

"9 Great James Street, Bedford Row,
October 5, 1874.

"Dear Sir,—Industrial Dwellings Competition.—After repeated alterations I have got out a scheme on which we may venture, I think, to take our stand, and I called to-day to ask you to come and inspect the same. When you return perhaps you will call as soon as possible, and while there is time to make any further alterations. Will you kindly send me a line to say when you will call, and I will be here to meet you? In the meantime I will push on with the drawing.

"Banister Fletcher, Esq."

"I remain, yours truly,

"FRANCIS BUTLER."

Several interviews followed, the defendant at such interviews suggesting some alterations in the plans prepared by the plaintiff, but eventually the whole of such suggestions were thrown aside as impracticable, and as not tending to the improvement of the design. The plaintiff sent in the plans, elevations, estimates, &c., to the company on October 26, 1874, under the motto "Self-contained." The plans, &c., had to be mounted, and the plaintiff preceded to state that on the afternoon of October 20 he, in company with a friend and with the defendant Mr. Fletcher, went to the moulder's and remained there until 8 o'clock at night for the purpose of seeing that the plans were dispatched that evening, and for taking the estimates. After this they all went to Mr. Fletcher's office, and Mr. Fletcher filled in the figures of the estimate in the report. Whilst this was being done, the question of sending in an envelope under the motto "Self-contained," and covering the name of the author of the design, necessarily came up for discussion. Mr. Fletcher then stated that he must send in his own name as the author of the design. Such a proposition (as the plaintiff alleged), being directly in the teeth of the agreement between him and the defendant, excited considerable surprise on his part, and he protested against such a step being taken, insisting that his name as well as Mr. Fletcher's ought to be sent in under cover of the envelope. The defendant, however, persisted in his point, and the plaintiff, being under the impression that the designs of so young a member of the profession as himself would probably fail in obtaining the prize, and for other reasons, did not threaten litigation, but stated that if anything more were heard of the design he should insist upon his name being mentioned. After this the defendant, contrary to good faith, sent in his own name alone as the author of the design in an envelope labelled "Self-contained." The design obtained the second prize, the company's award being made on Dec. 23, 1874. On the evening of that day Mr. Fletcher made a hurried call at the plaintiff's office, stating that he had good news to tell him—that a second prize had been obtained—and asking him to call on him (Mr.

Fletcher) the following day. The plaintiff was, however, unable to call, and, on December 26, he wrote the defendant the following letter:—

"9 Great James Street, Bedford Row, W.C.,
December 26, 1874.

"Dear Sir,—Industrial Dwellings Competition.—I was certainly surprised when you informed me last Wednesday evening that my design had received the second premium, and I think that, as it has not been condemned to oblivion, it is due, not only to myself but to yourself, that our original compact should be carried out by the joint names being placed on the plans, and also that the correction should be made in the *Times* and building papers.

"After the drawings had left my office, and had been sent in to the secretary of the committee, you will remember how I protested against the exclusion of my name, when for the first time you announced your intention to send in only your own. And now that the work has attained such prominence, I owe it not to myself alone, but to the architectural profession, to state the part I took in the preparation of the design.

"I feel sure you will see the matter in the same light, and will save me the necessity of communication with the secretary and the newspapers by at once taking the necessary steps yourself for that purpose.

"You must let me hear from you before next Wednesday morning, if you please, as there must be no delay in the appearance of my name.

"I remain, yours faithfully,

"FRANCIS BUTLER."

"To Banister Fletcher, Esq.,
32 Poultry."

On the day the letter was dated the defendant called at the plaintiff's office, and the latter delivered to him the letter; whereupon the defendant, after reading it, said:—"Of course there was an end to any business connection between them;" that it would damage his professional reputation to accede to the views expressed in the letter, and that he must decline to do so. The matter then dropped, and the defendant left the plaintiff's office. Hoping that upon reflection the defendant would act upon the compact into which he had entered, the plaintiff in his bill went on to state that he refrained during the time mentioned in his letter from taking any steps in the matter; but having received no further reply, he wrote the following letter to the secretary of the company:—

"9 Great James Street, Bedford Row, London, W.C.,
Dec. 31, 1874.

"Sir,—Industrial Dwellings Competition.—I regret having to trouble you with reference to the design which gained the second premium in this competition, but as Mr. Banister Fletcher has refused to acknowledge me as the author of such design, I have no alternative but to enclose you a copy of a letter I have handed to that gentleman, and which I must beg of you to lay before the committee. It will afford me much pleasure to attend the committee personally, and produce before them such evidence as will prove incontestably the truth of every word contained in my letter to Mr. Fletcher.

"Pending the investigation, which I court, I trust the committee will withhold the name of Mr. Fletcher as the author of the design.

"I am, Sir, yours obediently,

"FRANCIS BUTLER."

The plaintiff stated that he had an interview with the secretary of the company upon the subject of his letter, but the secretary declined to interfere in any way unless restrained by the injunction of the Court. The designs had been advertised as those exclusively of the defendant, and the company was about to exhibit such designs at the Mansion House under the auspices of the Lord Mayor and Corporation of the City of London. The plaintiff submitted—having regard to the nature of his professional calling—that the reputation as an architect which the exhibition of the design and the advertisement thereof would give him was a most valuable and important prospect; and, in entering into the agreement with the defendant, the plaintiff, although the hope that he would obtain a first or second place was comparatively slight, had it distinctly and expressly in view to secure for himself such professional reputation and the fruits thereof. In parting with his property in the plans, &c., the plaintiff, in conclusion, declared that he parted with the same subject only to the agreement as to sending in his name and to the stipulations contained in the instructions of the company, one of which was as follows:—"The directors will afford facilities for the public exhibition of the whole of the designs free of cost to the authors, and with or without their names or mottoes, as may be desired."

Mr. Glasse, Q.C., and Mr. Ince appeared for the plaintiff in support of the motion for injunction; Mr. J. Napier Higgins, Q.C., and Mr. John Chester were counsel for Mr. Banister Fletcher; Mr. J. Pearson, Q.C., and Mr. Millar for the company.

On behalf of the plaintiff it was argued that he had made out a case for the interference of the Court, and the statements in the bill were supported by affidavit. It was stated that the only substantial alteration suggested in the plans by Mr. Fletcher was that the water-closets should be placed inside the dwellings instead of outside; but the suggestion was rejected. Though nominally an architect, Mr. Fletcher's business was virtually that of a surveyor. Before taking proceedings the plaintiff's solicitors wrote to Mr. Fletcher, expressing their surprise that one professional gentleman should endeavour to appropriate the work of another; and Mr. Fletcher, in reply, disclaimed any such idea, but stated that he would not, under a threat of legal proceedings, pay the defendant more than he was bound to do.

The VICE-CHANCELLOR, adverting to the importance of the competition, said that perhaps some of the younger men in Court would live to see the whole of London covered with industrial dwellings. If it were known that Mr. Butler was the young man who had obtained a prize for his designs, he would probably be greatly benefited thereby. But what did Mr. Fletcher say in reply?

Mr. INCE said he would read the defendant's affidavit, which in substance was as follows:—Mr. Fletcher said it was true that he was a surveyor carrying on business at 32 Poultry, but (as the plaintiff well knew) he was an architect also, having been engaged in that profession for upwards of twenty years. He had for the last fourteen years been an Associate of the Royal Institute of British Architects, and in 1852 obtained the Institute's first prize for a design for a parsonage house. His name had also appeared for many years in the "Post Office Directory" as an architect, marked so as to show that he was a member of the Institute, the plaintiff's name not being so marked. He was the author of several works, one of which was entitled, "Fletcher on Dilapidations," and another "Model Houses for the Industrial Classes." During the past twenty years he had had great experience as an architect, but owing to the great extent of his business he had on many occasions—in accordance with a recognised custom among architects—been compelled to employ persons to assist him in executing his architectural commissions, and in particular to prepare from his suggestions and under his direction, and subject to his approval, plans, elevations, sections and perspectives of edifices and buildings; and he had designed and acted as architect in respect of houses and other buildings erected at Newcastle-on-Tyne, Great Malvern, West Malvern, Thetford, Orpington, London and elsewhere. He had for many years past given great attention to the subject of the improvement and adaptation of dwellings to suit the needs of the poor and the artisan classes, and the construction of buildings specially intended for occupation by such persons. In fact, the work "Model Houses," which was published in 1871, deals with the last-mentioned application of architecture; and in accordance with plans therein contained some model houses were erected under his superintendence as architect. Mr. Fletcher went on to say that a society, called the Model House Association, had been formed, with the object of erecting improved dwellings for the poor and artisan classes by carrying out the schemes and plans (or some of them) detailed and exhibited in his book, and he was the honorary architect of such society. He had referred to these matters in order to rebut the inference which the defendant desired to be deduced, namely, that he was not an architect, and that he had been compelled to rely on the plaintiff for the production of designs and plans. On the contrary, he was specially acquainted with such matters, and in fact it was such experience which had induced him to compete for the premium offered by the Improved Industrial Dwellings Company (Limited). In May 1874 he entered into an arrangement with the plaintiff, similar to that set out in his Bill, with reference to a competition for a chapel to be erected at Finsbury Park, and agreed to pay him 20% if unsuccessful (as was the case), and 62½% if successful. About June 23, 1874, the plaintiff had been engaged by him to make finished drawings of his designs for some houses proposed to be erected in Southwark; and about that time he told him that he (Mr. Fletcher) was about to compete for the prize offered by the Industrial Dwellings Company, and asked him if he would make the finished drawings on the same terms as he had done for the chapel. The plaintiff did not inform or lead him to imagine that he intended to compete, or that he had obtained the particulars of the competition, but discussed with him the number of drawings that would be required, and the style of his (Mr. Fletcher's) proposed designs, and subsequently agreed to the terms offered, and signed the agreement of June 23, 1874. It was not at any time prior to the completion of the plans stipulated or proposed by the plaintiff, or acquiesced in by him (Mr. Fletcher), that such plans should be sent in in their joint names as their joint production, nor would he ever have consented to any such co-operation; for whatever despairing views might have been entertained by the plaintiff as to the chances of success in the competition, he (Mr. Fletcher) had great faith in the value of the descriptions which he had conceived for such plans, and which needed only careful execution by the plaintiff under his guidance in order to be successful. In proceeding, Mr. Fletcher averred that such execution of the manual or drafting portion of the works of an architect by deputy was very common in the profession. In fact, he was able to state, from personal knowledge of some eminent members thereof, that designs of the very highest character and importance were constantly exhibited by distinguished architects which had been prepared by pupils or other draughtsmen from the rough notes or suggestions of architects of eminence, whose time was too valuable to be devoted to the manual portion of the work. The plaintiff undertook the physical preparation of his (Mr. Fletcher's) designs for such competition on the basis set forth in the agreement, and the expression therein contained, "but should you obtain the first prize," clearly disclosed, and was consistent with, what he positively said was the intention, that the competition was on his (Mr. Fletcher's) own personal behalf, and not on that of the plaintiff. The sum of 20% mentioned in the agreement was in itself more than sufficient to cover any expenses which the plaintiff ought properly to have incurred, and the plaintiff well understood the nature of the arrangement. It was absolutely untrue that the whole of the plans, elevations, sections, estimate, and description, and the idea and design thereof, emanated from, and were entirely the invention of, the plaintiff alone; on the contrary, he asserted that partly by oral reference to his book on "Model Houses," and partly by descriptions, sketches, and conversations with the plaintiff before he commenced the plans, and on several occasions during their preparation, he disclosed to the plaintiff his designs and ideas as to the same, and the plaintiff in fact simply expressed and carried out his (Mr. Fletcher's) designs and ideas, with a few unimportant exceptions of which he approved. During the preparation of the plans he had frequent interviews with the plaintiff, and inspected, criticised, and suggested changes in the drawings, in order that they might ultimately accord with his designs and ideas; it was therefore false that he never gave the plaintiff any assistance or contributed any idea or suggestion. At no time during the preparation of the plans did the plaintiff hint or state to him (Mr. Fletcher) that he expected to be named a joint producer or inventor of the same. The plaintiff's letter of October 6, 1874, was delivered at his office whilst absent in Norfolk, and was opened by his (Mr. Fletcher's) clerk, who only informed him that Mr. Butler wished to see him. Mr. Fletcher went on to state that suggestions made by him to the plaintiff

were generally given effect to, and some of the alterations he made personally in pencil on the finished drawings; and he believed that he also suggested the motto "Self-contained." The plans were by his directions sent by the plaintiff to be mounted by a mounter whom he (Mr. Fletcher) generally employed; and he, not the plaintiff, prepared the report from rough notes, the plaintiff afterwards, at his dictation, introducing a few alterations. The plaintiff asked as a favour to have his name added to his (Mr. Fletcher's), without claiming it as a right. He (Mr. Fletcher) objected, stating that their agreement was in writing, and that he had devoted so much time and labour to the question of the dwellings for the industrial classes that he would never be associated jointly with anyone in reference to it. The plaintiff did not further press the point, and he (Mr. Fletcher) then wrote his name in the envelope and handed it to him for delivery at the company's offices. As the name was sent in to the company under cover of a closed envelope endorsed with a motto, the judges could not, before adjudication, know whether the authors were young or old members of the profession, and the plaintiff's statement that he feared his being a young member would prevent his getting a prize was therefore wholly absurd. With regard to the letter of December 26, Mr. Fletcher asserts that he told the defendant, when he handed it to him, that his statements were utterly false. The defendant then complained of being underpaid, and he (Mr. Fletcher) replied that he knew what he had to do when he entered into the agreement, and that he was trying to make a reputation for himself at his expense. He did not desire the waterclosets to be placed in the kitchens, but stated that the company in their buildings had the waterclosets placed so as to be approached from the scullery, and he wanted an alternative plan prepared, showing the closets so placed. So far from the plaintiff refusing to carry out or ridiculing the idea, he told him that he had prepared such alternative plan, and it was referred to in his (Mr. Fletcher's) rough notes of the report. He (Mr. Fletcher) had no interest in the plans, and had not advertised, or threatened to advertise, them in any manner whatever, as he submitted that they absolutely belonged to the Improved Industrial Dwellings Company. He considered that the company only were entitled to deal with or exhibit the plans as they might think proper, and he had not requested them to exhibit the same in any manner whatever.

Mr. INCE, in commenting upon the defendant's affidavit, said it contained no distinct denial of the plaintiff's statement that he should prepare the plans, &c., and that the same after submission to the defendant should be sent in to the Company in their joint names under a motto.

Mr. HIGGINS: Mr. Fletcher states that at no time during the preparation of the plans did the plaintiff hint or state to him that he expected to be named a joint producer or inventor thereof.

Mr. INCE: The plaintiff is willing to abide by the arrangement that his name should appear jointly with Fletcher's.

The VICE-CHANCELLOR: But it is alleged that the design emanates solely from the brain of Butler.

Mr. INCE: I contend that he is the inventor of the plans who sits down and works them out. The plaintiff was virtually the author of the plans.

The VICE-CHANCELLOR: But the plaintiff has even alleged that Mr. Fletcher is simply a surveyor, whereas he appears to be an architect of many years' standing, and so far back as 1852 obtained the first prize offered by the Institute of Architects for a design for a parsonage house. He has also published a work on the subject of industrial dwellings.

Mr. INCE: I understand that Mr. Fletcher devotes himself principally to his practice as a surveyor. According to his own statement he appears to have had recourse to other persons in order to work out architectural details.

Mr. NAPIER HIGGINS was about to address the court, when

The VICE-CHANCELLOR said he did not think it necessary to call upon him, as he had come to the conclusion that he could not at the present stage of the proceedings grant an injunction. The bill involved the character of professional men, both of whom his Honour supposed were highly respectable. Upon the materials now before him he was asked to grant an injunction restraining the exhibition of plans for which Mr. Fletcher had obtained a prize as his own production. Unless the evidence was perfectly conclusive the court ought not to grant such an injunction, because the plans had already been exhibited as Mr. Fletcher's own, and he understood that the plans were now on exhibition at the Mansion House, as those for which he had obtained the second prize. If the court now granted the injunction the plans would have to be taken down, or Mr. Fletcher would have to associate Mr. Butler's name with his own. The facts appeared at present to be in considerable doubt. Mr. Butler had had considerable share in the production of the plans, which were now being exhibited as the production of another; but one thing told very much against him: Mr. Butler was a young man, and it did not appear how long he had been in the profession; it also appeared that young men were often able to obtain work from older members of the profession. The idea of competing originally proceeded from Mr. Fletcher, who had for many years been a member of the Institute of Architects, and so far back as 1852 obtained the first prize for the design of a parsonage. The fact of his having obtained such a prize showed in itself that he must have been a person of capacity, and it also appeared that he had devoted his attention particularly to the question of the construction of dwellings for the poorer classes, having in 1871 published a book on the subject. Under these circumstances, that Mr. Fletcher should have conceived the idea of competing for the erection of industrial dwellings was very natural. The statement of the plaintiff in substance was that he was to be the active designer, and that if he succeeded in obtaining a prize it was to be a joint prize. His Honour read the agreement between the parties, and signed by Butler, which contained the clause: "I am to prepare all the drawings by myself, or with such assistance as may be necessary, at 20% if unsuccessful, but should you obtain the first prize, 125% is then to be paid to me in lieu of the 20%. If you obtain the second prize, then 85% is to be paid to me in full for all my services, and those I employ." His Honour thought Mr. Butler should, when the agreement was drawn up, have—if he claimed

such a right—insisted upon his name being associated with Mr. Fletcher's as the joint producers of the plans. But another document appeared to be very much in favour of Mr. Butler. In a letter to Mr. Fletcher on October 5, he stated: "After repeated alterations I have got out a scheme on which we may venture, I think, to take our stand." If he took the first document by itself, he should say that Mr. Fletcher was the sole competitor, but if he also took the other document he should then say that both parties were competing, and that the plans were a joint production. Whilst in the present state of the proceedings his Honour must decline to grant an injunction; but he said that the question between the parties would still be kept open. The following paragraph in the plaintiff's bill was, however, open to comment: The plaintiff stated that the whole of the plans, elevations, &c., and the idea and design thereof, emanated from and were entirely his invention, and that Mr. Fletcher never gave any assistance therein, nor contributed any idea or suggestion in reference thereto. His Honour was bound to say that this stated the case of the plaintiff much too strongly. The impression also at first produced upon his mind was that Mr. Fletcher was not an architect, and was incapable of producing the plans; but if his Honour were to express an opinion, it would be that Mr. Fletcher was quite as competent a person as Mr. Butler. Mr. Fletcher, in his affidavit, also stated:—"It is absolutely untrue that the whole of the plans, elevations sections, estimate, and description, and the idea and design thereof, emanated from and were entirely the invention of the plaintiff alone; on the contrary, I say, that partly by oral reference to my book on model houses and partly by descriptions, statements, and rough sketches, and conversations with the plaintiff before he commenced the plans, and on several occasions during the preparation thereof, I disclosed to the plaintiff my designs, and ideas, and suggestions as to the same, and that the plaintiff, in fact, in doing what he did simply expressed and carried out my designs and ideas, with a few unimportant modifications approved of by me."—Upon the whole his Honour had come to the conclusion that the motion must be refused, as an injunction might operate most injuriously to Mr. Fletcher, and the plaintiff had not sufficiently made out his case to call for the interference of the Court at the present stage of the proceedings.

Mr. NAPIER HIGGINS desired to state that a number of allegations had been made by Mr. Butler against Mr. Fletcher which were most unfounded, and he could have satisfied the Court as to that if he had been called upon.

Mr. PEARSON, on behalf of the Company, asked for costs, and after some discussion upon this question, the Vice-Chancellor determined that costs of the motion should be treated as costs in the cause.

SIR DIGBY WYATT ON EXHIBITION BUILDINGS.*

ON the subject of the arrangement of buildings for industrial exhibitions, not many men now living have a better claim to be heard than Sir Digby Wyatt. When the first International Exhibition was under consideration, and the promoters were in uncertainty as to what ought to be attempted, he was deputed to visit Paris to report upon the quality, extent, and general character of the Exposition of the Products of Industry, which was the more immediate precursor of our own exposition. He was officially connected with the construction of the building as Secretary of the Executive Committee, and no better description of the works has been published than the Paper which he read before the Institution of Civil Engineers, and to which one of their premiums was awarded. Everyone knows of the part he took in the arrangement of the improved building at Sydenham, and that he has been appointed to report upon some of the exhibitions which have been held subsequently. The report of Sir Digby Wyatt on the "Characteristic Features of the Buildings of the Vienna Exhibition of 1873, as compared with the Buildings erected for previous International Exhibitions," is, therefore, not a Paper of a technical kind only, addressed to those who are concerned in the construction of such buildings, but should be also accepted as a retrospect of some of the most interesting transactions of our time, by one who took no unimportant part in them.

Exhibition buildings may be regarded under two heads, viz., the arrangement of the plan and the system of construction. The advantages of clear arrangement are self-evident, but the difficulty of securing them (apart from all considerations of cost) is shown by the variety of systems of planning which have been adopted. Visitors ought to be put to as little trouble as is possible in finding without delay any objects they may desire to see; but as exhibitions have been always supposed to have some higher object than the gratification of the sight, and to be, in their way, nothing less than teachers, it has been the desire of promoters to give constant opportunities for the contrast of the exhibits of one country, place, or period with those of others. Then importance has been attached to the opening ceremony, the distribution of prizes, and the like, and provision has to be made for allowing a multitude to have the same view. How to combine these purposes has hitherto taxed the ingenuity of architects and commissioners, and as yet, it must be admitted, no arrangement that might be accepted as perfect has been devised. Not one of the later exhibitions has had so practical a building committee as that which was associated with the Exhibition of 1851, and which included Cockerell, Barry and Donaldson, William Cubitt, Stephenson and Brunel, and the suggestions which they offered to the competitors for the building to be erected in Hyde Park displayed a foresight which further experience has but confirmed. The facilities for the circulation of visitors, it was said, were never to be infringed; arrangements were to be provided for keeping grand points of view uninterrupted, and views to or from the main centres, to assist the visitors; there were to be no halls, sections, or chambers to interfere with the classification and arrangement of objects; numerous doors were to be provided, and the avenues were to be arranged so that on special occasions immense numbers might be accommodated with good views of what was

passing. It will be remembered that none of the designs submitted to the Commissioners satisfied them, and that the building committee accordingly prepared one of their own, which was superseded by the design of Sir Joseph Paxton. But although the mode of construction was altered, Sir Digby Wyatt maintains that in the last-named design, with its simple nave and transepts, all the leading features of the Committee's plan were retained, and that much of the success of the Exhibition of 1851 was owing to this, while "subsequent experience in all succeeding exhibitions has tended to confirm the general accuracy and propriety of the conclusions then arrived at." Even the rotunda, with its domical roof 200 feet in diameter which appears in the Committee's plan, and was esteemed so little at the time, was realised on a much larger scale in the Vienna Exhibition building.

Sir Joseph Paxton's design originally had, it must be admitted, not much merit, if it was regarded as a piece of architecture. It was in a great measure due to Sir Charles Barry's suggestion of the arched transepts that the building became what Mr. Fergusson calls "the most fairy-like production of architectural art that had yet been produced." But the design suited the purpose, and (as arranged by Sir Charles Fox) it had the advantage of allowing of construction in a short time and of removal without delay. Sir Digby Wyatt says that the defects found by those who had charge of the building were, (1) the difficulty of applying screens or blinds to lessen the intensity of the glare; (2) the fragility of the roof and the consequent risk to the exhibits from rain; (3) the difficulty of carrying out repairs or relieving obstructions to the rainfall; (4) that in providing ventilation, dust, mist, leaves, birds, &c., were admitted; (5) the great difficulty of keeping the angles of meeting between horizontal water-courses from the roofing and the vertical face work water-tight; (6) in holding a safe balance between economy and the maintenance of sufficient rigidity to resist vibration and displacement, through the action of wind upon large surfaces directly opposed, and exposed to its unbroken violence.

Some of the defects of the English building were avoided or remedied in the second great International Exhibition building in Paris, which was opened in 1855. But while the former cost 193,168*l.* 10*s.* 2*d.*, the latter cost "little if at all short of a million sterling." There was no less a disproportion between the receipts; in London they amounted to 505,000*l.*, and in Paris to 117,666*l.* Sir Digby Wyatt describes the great main building in the Champs Elysées as being a parallelogram on plan, placed due east and west, and containing the various exhibits from all countries, with the exception of the specimens of fine arts, machinery, agriculture, and an infinite number of miscellaneous which were in separate buildings.

"From the unavoidable distance between the different buildings, the divided nature of the allotments to each country, and the unsuitableness of some portions of the building to the class of goods to be placed in them, the classification of objects, either geographically or systematically, became impossible. The space allotted to England was situated in not less than nine distinct places. . . . These different positions could not be visited without passing through the allotments of almost every other country contributing to the exhibition. Owing to the distance between the several buildings the scattered nature of the juries was one of great labour and difficulty."

The administration of this exhibition was no less defective; "one might almost say there was no precise and reliable arrangement at all." There was not a single crane provided to aid in unloading goods, and for some time goods would be received at but one of the entrances to the Palais and one in the Annexe. "The products of all kinds, however, were so beautiful and interesting, and so much taste was exhibited in their grouping and arrangement, that, to the thoughtful student, this exhibition proved one of the most important, from an educational point of view, of any which has as yet taken place."

Passing over those on a small scale, the third great exhibition building was that designed by the late Captain Fowke. The prominent characteristics of its construction were the domes, 160 feet in diameter, and the picture galleries. Sir Digby Wyatt considers that the domes reflected the greatest credit on the ingenuity and daring of the designer, and they were marvels of difficulty overcome in construction. The picture galleries were admirable; the light coming from above the bold coved cornice displayed the paintings to advantage. "If the buildings had only been treated in as architectural a manner as they had been well studied from a utilitarian point of view, there is little doubt that they would have been appreciated by the public as they deserved to be for their economic merits. . . . Visitors often left the building feeling that when once out of the picture galleries there was something more wanting for effect than that building supplied to the educated eye; it was clear that what was missing was a freer scope given to the master eye and hand of the properly trained architect and ornamentist. To this want was due the ultimate condemnation of the buildings." The arrangement of the building is too well remembered to need description.

Novelty of arrangement at least characterised the fourth great International Exhibition, which was held in 1867, in the Champ de Mars, Paris, where the principal building was elliptic in plan, with concentric and radial divisions, as suggested originally by Mr. George Maw, of Brosely. But this arrangement brought inconveniences which might have been foreseen. The classification being rather according to subjects, the spaces allotted to the countries were in some cases in excess of their requirements, in others they were insufficient; the cost of construction was enormous, and additional expense was entailed on some of the exhibitors, through the curved ends of the divisions. Whatever success this Exhibition may have obtained was due, in Sir Digby Wyatt's opinion, to the gaiety which reigned around rather than to the merits of the main Palais de l'Industrie. The outlying buildings in the grounds of the Exposition, he says, were for the most part carried out on a grand scale, and in the cases of Russia and Egypt especially offered singularly interesting and novel materials for the study of the arts of construction.

The greater part of Sir Digby Wyatt's report is, as might be expected, devoted to the exhibition building in Vienna. No more forcible illustration, he says, could be probably cited of the rate at which men's minds ex-

* "Reports on the Vienna Universal Exhibition of 1873." Part III.

pand in the nineteenth century with regard to material things, than the fact that such a monster conception as that of the Vienna building could be dreamt of. The building in Hyde Park was a parallelogram, about 1,851 feet long by 450 feet broad, with a superficial area of 810,000 feet. The main building at Vienna, as constructed for current products only, exclusive of varieties of machinery, agriculture, art, archaeology, and hundreds of other specialties, covered a space, larger in area than that which accommodated every description of industry in 1851, and eventually the total area was increased to 1½ times that at first enclosed in the main building. Exclusive of covered passages and courts, the buildings alone comprised an area of about 1,250,000 feet.

Sir Digby Wyatt describes with much detail the construction of the buildings, and of Mr. Scott Russell's gigantic rotunda, which had a diameter of 354 feet, more than three times that of St. Paul's. Much praise, he says, is due to Herr Hasenauer (the head of the Committee of Architects, to whom the planning and decoration of the buildings were confided) for the skill and talent which he so thoughtfully brought to bear on the difficult task entrusted to him. The work "appeared to every one most creditable, agreeable to the eye, symmetrical, well proportioned, pleasantly drawn, and neither too bold nor over ornate. Where enrichment seemed requisite, no part was left nude or shabby, and where extreme simplicity or rigid economy precluded ornament, such simple styles of building and construction were resorted to as best dispensed with what could not be prudently afforded." The building, it will be remembered, was intended for use hereafter as a granary or dépôt, in which food sufficient for some months' use could be stored. It should not, therefore, be judged as a building for exhibitions only. The success of the Vienna Exposition, Sir Digby thinks, was partly due to the geographical or topographical arrangement which was adopted, to the variety of supplementary buildings which afforded illustrations of so many countries and processes of manufacture,* to the convenient arrangement of the offices and bureau, and to the facilities afforded by the tramways and public vehicles of the city. His description of another of the causes we quote at length.

"A sixth marked success at Vienna may be attributed to the unsparing use of novel modes of building, some of which architects are often too apt to regard rather as monopolies of civil engineering than as invaluable resources for use in their own profession. Such features, when used (as at Vienna unsparingly), in union with structural forms recognised by the eye of taste as associated with standard models of elegance in styles of architecture from which no ancient precedents can be derived for the determination of the forms and proportions which such novel modes of building can well be made to assume, accommodate themselves admirably to the complicated and often unexpected necessities of structure incident to new orders of wants born of the nineteenth century.

"By way of practical illustration of this proposition, reference may be made to the frank adoption of light wrought-iron lattice girders and simple zinc roofing in combination with Renaissance mouldings, capitals, and arabesques of fairly pure character. The result was unquestionably more satisfactory than it would have been if, by casing or applying needless ornamentation, any attempt had been made to mask or conceal the functional necessities of the iron girders, or the sheets and rolls, or laps of the ordinary zinc roof covering.

"In their successful union of ornamental architecture with simple, daring, and novel construction in iron and other materials, the architects and engineers of the Vienna Exhibition only availed themselves with steadfastness of the source of success which has contributed so much to make the vast and splendid new buildings of that city the most practically economic and satisfactory specimens of modern civic architecture which have yet supplied efficiently the complex wants of the nineteenth century, and at the same time preserved the aspect of forms of grace derived from the traditions of classic Mediæval and Renaissance art. As yet, perhaps, in Vienna scarcely enough has been derived from the experience of the Middle Ages, in which Germany is nationally so strong, but from the art patronised by the merchant princes of Venice, Florence, and Genoa, a large measure of the architectural splendour of the new city has been appropriated."

On the other hand, there were, he says, drawbacks to success. The building had the insuperable error of being cast on too vast a scale, it was huge and splendid, but cumbrous. "The human eye can really take in, with what the great Italian architects were wont to study with much care, the 'colpo d'occhio,' but a limited dimension; and beyond such dimensions no increase of enjoyment can be derived from additional scale or extent of structure." The effect of the size of the structure dwarfed the objects exhibited; while in some instances the exhibitors interfered with the architectural effects by usurping the best points of view. The plan wanted elasticity, its rigid arrangements and subdivisions diminished the enjoyment of visitors, and the iron shutters which separated the sections and were closed at night, were vexatious to those who remained in any remote part rather late, as it became necessary to walk nearly around the building to find an exit.

The conclusion which Sir Digby Wyatt arrives at on surveying all the past structures is, that it is doubtful whether we have yet attained the best form of exhibition building. The type most proper, he thinks, may be found in some of the large foreign and English railway termini. There ought to be "no internal walls, but a roof supported on light cheap columns, with the light coming vertically down from near the apex of the roof in our climate, or from vertical windows easily shaded by blinds or Venetians in hotter countries."

We have done no more than give an abstract of the Report—which is to architects one of the most interesting that has yet appeared within a Blue Book.

* We may mention here, that a very graphic and picturesque description of the buildings in the Parks has been written by Mr. Hugh Willoughby Sweny, and has been published as an Appendix to the Reports. It is well worth reading, although it is likely to be overlooked from its position.

ILLUSTRATIONS.

HOTEL DE VOGUE.

THE building which is shown in the Illustrations forms the subject of the article "Types of French Architecture," which appears on page 33.

IRON BRACCIALE.

THE Siena palaces are famed for their banner or standard holders. The example which we illustrate is an adaptation, in a modernised spirit, of the old forms, and Professor BANDINI's design has been well carried out by his iron worker. The original was purchased by the Berlin government as a specimen of art-workmanship.

THE PROTECTION OF TIMBER AGAINST FIRE.

MR. S. W. MOORE, F.C.S., the Demonstrator of Physiological Chemistry at St. George's Hospital Medical School, has published a letter in which he says that up to the present time no chemical has been discovered which is "absolutely reliable" as a means of fire-proofing timber. Alum and tungstate of soda and a saturated solution of alum and sulphate of potash have been recommended for textile fabrics, but how far these solutions are useful as preservatives against insects and protectives from fire when applied to masses of woodwork is yet a matter for experiment. The forcible injection of solutions of salts by means of exhaustion would render the wood very heavy, and would also materially increase the cost. A simpler plan seems to be the application of some fire-proof material to the surface of the wood. M. Sieburger suggests for this end the following:—Two coats of a thin hot solution of glue; then paint with a thicker solution of glue, and dredge with a finely pulverised mixture of one part sulphur, one part ochre or pipeclay, and six parts sulphate of iron (green vitriol); another recipe gives directions to paint the wood with a hot mixture consisting of three parts of a saturated solution of alum and one part of a saturated solution of sulphate of iron, and when dry to paint with a weak solution of sulphate of iron in which pipeclay is mixed to the consistency of paint.

The rationale of these processes is to produce an oxide of iron which shall so impregnate the wood as to prevent any sudden decomposition and formation of inflammable gas when heat is applied, besides supplying a non-conducting coat of clay. Tannate of the protoxide of iron or common ink is also a useful application for this purpose, but is expensive, and more useful as a preservative than as a protective.

Another class of protectives is the non-absorbable materials, as asphalt and the soluble glass or silicate of soda, which may be used as a paint for woodwork. Substances of this class seem to be effective; for in cases of destruction by fire in the late siege of Paris it was noticed that parts of buildings protected thus were uninjured, although the other portions were destroyed. This was particularly the case with simple plaster-protected walls. Not only are they protectives, but they also prevent the spontaneous combustion of the wood they cover, for wood not so protected has been known to ignite from a rapid absorption of oxygen, as in a case cited in the "Comptes Rendus," 1872, where an oak beam exposed to the sun was seen to smoulder, and when fanned broke out into flame.

ART LOAN EXHIBITION AT CHESTER.

AN exhibition of works of art, in connection with the local School of Art, has been open during this week in the Town Hall, Chester. Besides the sketches and studies lent by the Department of Science and Art, there are several paintings from the galleries of collectors in the county. The Duke of Westminster has sent some family portraits from Eaton Hall, the most noteworthy being those of the first Marquis and Marchioness of Westminster, by Gainsborough. His Grace has also contributed some sketches in oils of mountain scenery, by Landseer, which are the more remarkable as no animals are introduced in them; a Norwegian landscape, by Professor Gude; *An Indianman Ashore*, by S. Prout, and other works. Among the landscapes are, *Creswick's Falls of Clyde*, Roberts' *Phike*, and a view on the Dee, by Richard Wilson. There are portraits of William Roscoe, the historian; Sir William Brereton, the Governor of Chester when it was besieged by the Parliamentary army; Mrs. Siddons, and Miss Farren (afterwards Countess of Derby), the two last by Gainsborough. Several local artists have contributed water-colour paintings and sketches.

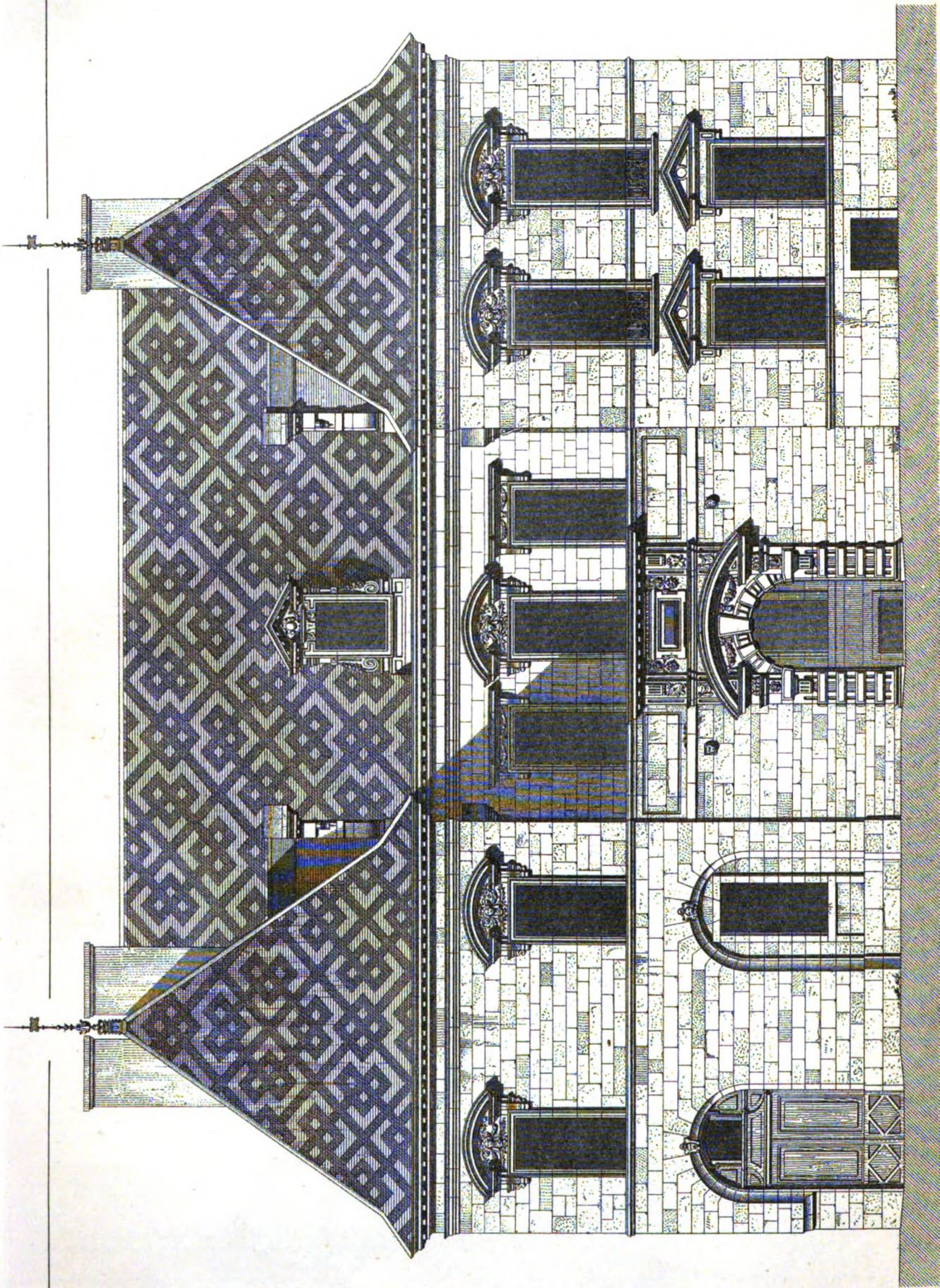
The collection of pottery has examples of nearly every class. There is a case of early printed and rare books, and an illuminated book of offices, which is said to have belonged to Lucrezia Borgia and Marie Antoinette. Sir Philip Egerton and Mr. Henry Clark have lent some fine ivories; the Duke of Westminster lends a gold torque which is 16 inches in diameter, and several collectors contribute plate.

The exhibition has been mainly promoted by the Rev. E. L. Y. Deacle, minor canon of the Cathedral and secretary of the School of Art.

BIRMINGHAM ARCHITECTURAL SOCIETY.

THE exhibition of drawings by students of the Birmingham District Architectural Society is now on view. The drawings have been made in competition for prizes offered by the society, the subject selected being St. Michael's Church, Northfield. This is an ancient edifice, exhibiting various styles of architecture, chiefly Early English and Decorated, but there is a good Norman doorway. It comprises nave, aisle, chancel, and square tower with six bells. Many of the windows are filled with beautiful stained glass, representing scenes from the life of Christ, &c. Five sets of drawings were sent in, and all of them are of more than average merit. The first prize of five guineas was awarded to Mr. J. W. Fisher; the second of three guineas to Mr. W. H. Kendrick; and the third of one guinea to Mr. A. Elgiblis.

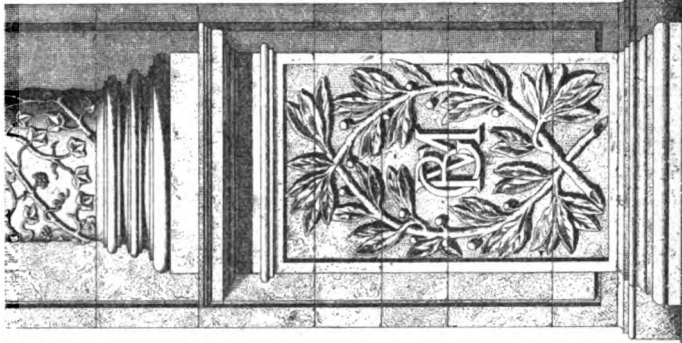
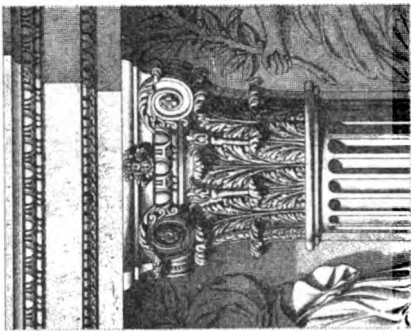




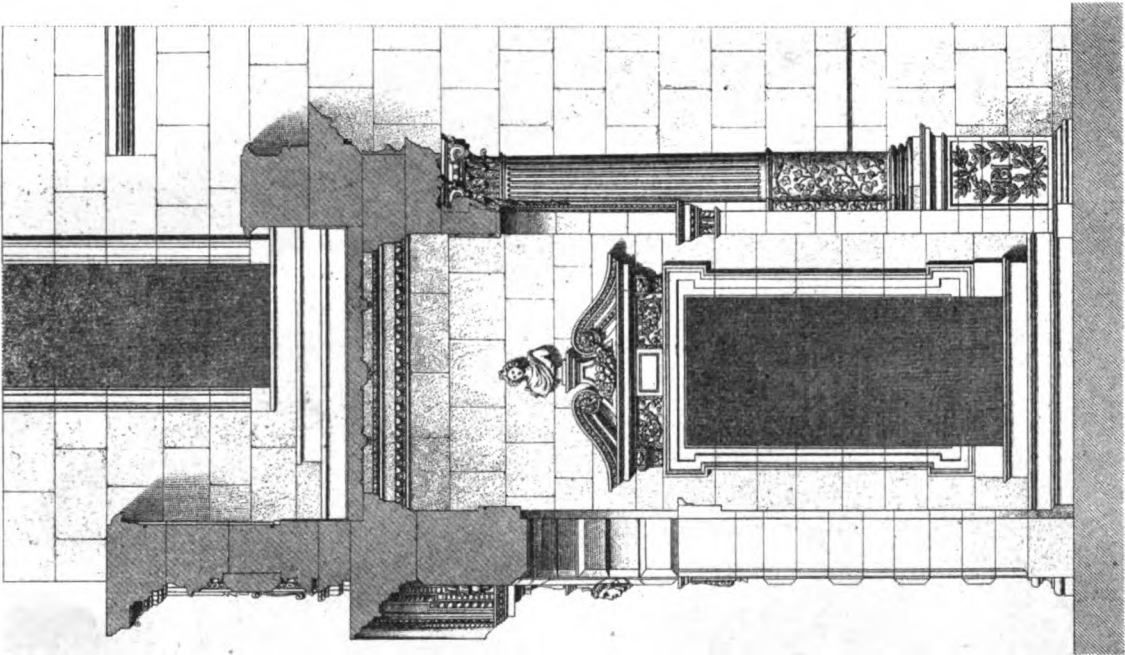
Printed by W. W. Symonds & Co. London. W.C.

TYPES OF FRENCH ARCHITECTURE - THE HÔTEL DE VOGÜE - DIJON.

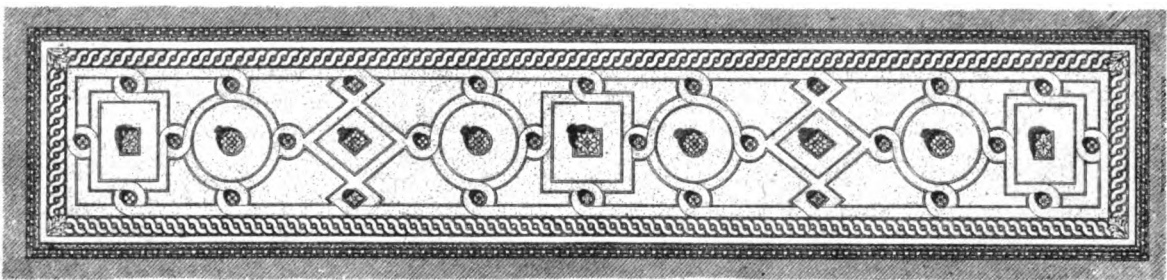




COLUMN OF PORCH.



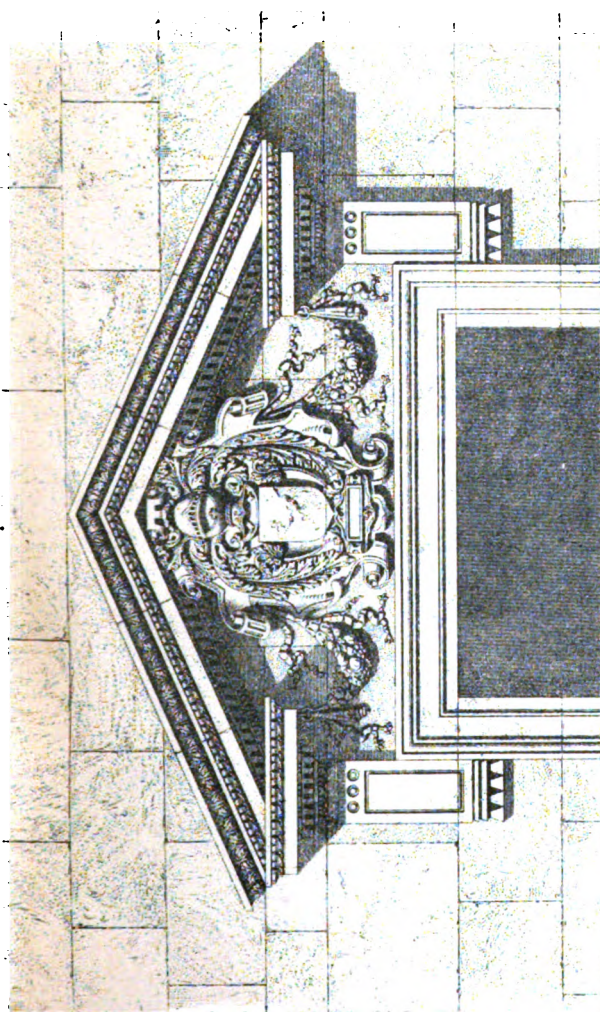
SECTION OF ENTRANCE PORCH



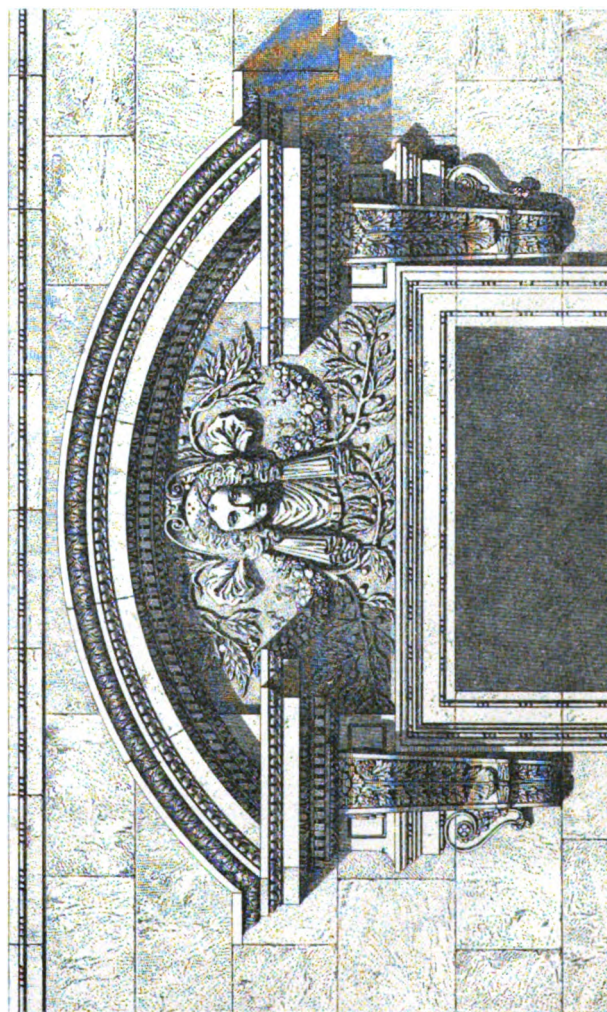
CEILING OF PORCH.

Designed by W. W. Symonds & Co. London E.C.

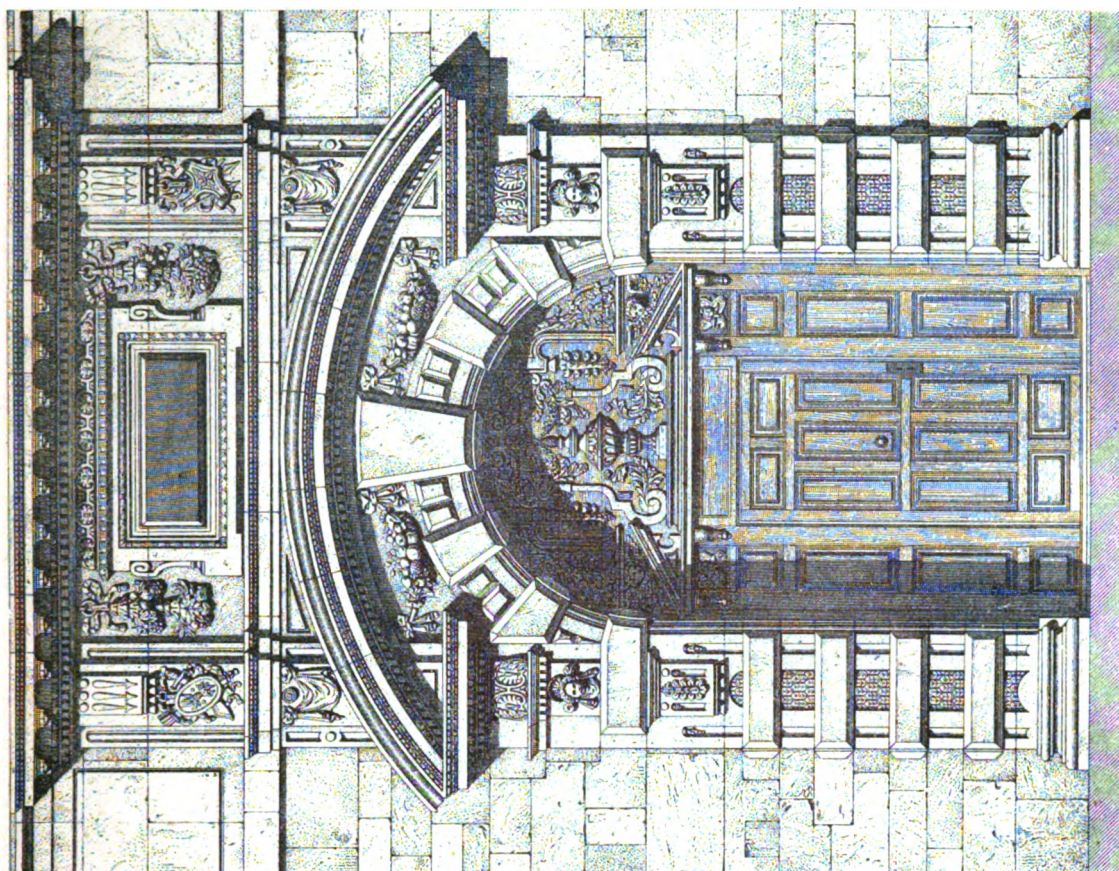
TYPES OF FRENCH ARCHITECTURE - THE HÔTEL DE VOGÜE - DIJON.



WINDOW HEAD - GROUND FLOOR.



WINDOW HEAD - FIRST FLOOR.

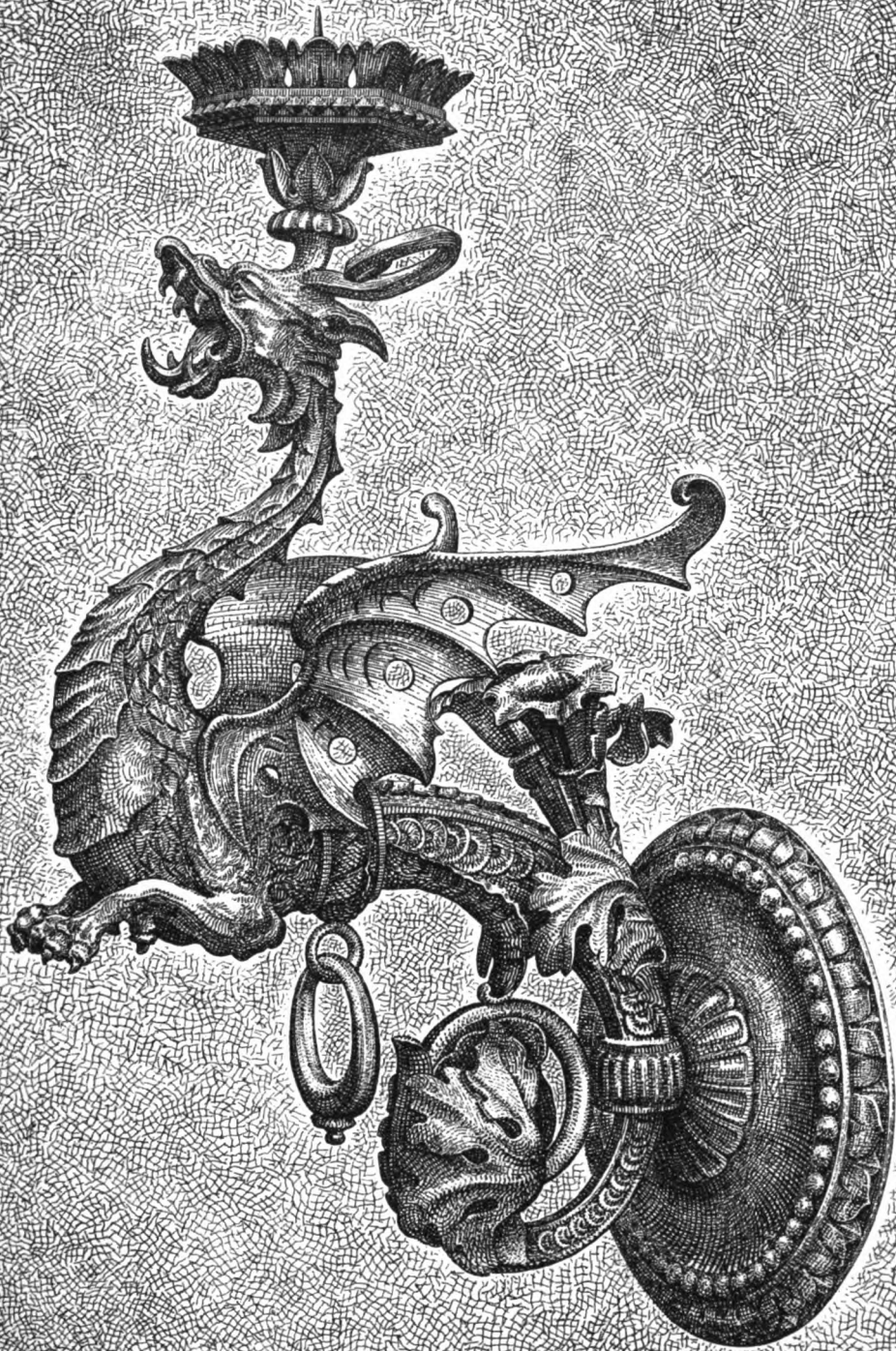


FRONT ENTRANCE.

TYPES OF FRENCH ARCHITECTURE - THE HÔTEL DE VOGÜE - DIJON.

Designed by W. H. Stanger & C^o London W.C.





Engraved by W. W. Spence & Co. London, E.C.

IRON BRACCIALE.
DESIGNED BY PROFESSOR G. BANDINI & WROUGHT BY FABBRO ZARAFFI.



THE ARCHITECTURAL ASSOCIATION.

At an ordinary meeting held on the 8th inst., Mr. G. H. Birch President, in the chair. Messrs. Arthur G. Langdon, B. Rieupet, J. A. Johnson, Arthur J. Gale, and Matthew H. Holding were elected members of the Association.

The CHAIRMAN stated that the drawings on the walls had been kindly lent by the Glasgow Institute, and exhibited some beautiful work, especially a drawing of St. Magnus Cathedral, Kirkwall.

Mr. L. W. RIDGE mentioned a subject which, though somewhat out of the usual routine, was of sufficient importance to be brought forward. He referred to the Artists' Rifle Corps, which stood in need of recruits, particularly the Company under the charge of their esteemed member, Mr. Bowes A. Paice. Apart from the political grounds upon which volunteering was to be recommended, he thought the pursuit was peculiarly adapted for those who, like architectural students, were engaged in sedentary occupations.

The CHAIRMAN said that it was gratifying to be able to announce that another of their past-presidents, Mr. T. H. Watson, had been elected a district surveyor.

Mr. W. WHITE, F.S.A., then read the following Paper on

A Brick and Concrete Church, St. Mark's, Battersea Rise.

It was my good fortune two or three years ago to lay before you an account of the restoration of an old church in Kent. This church happened to be a particularly fine one, and a peculiarly interesting example of an early church which had undergone successive restorations and alterations for centuries since its first foundation. Consequently I had but little difficulty in presenting to your notice a subject that was really worthy of your attention, something which we could all dwell upon and discuss with some pleasure and profit.

But now as a result of this the tables are turned upon me, and I am asked to give you, by way of contrast apparently, a like description of one of my own works; and the church which you honoured with a visit at the end of last session—the church of St. Mark, Battersea Rise—has been suggested to me for the subject of a “*felo de se*.” I am actually asked to exhibit the novelties and peculiarities of construction which it is said to contain, and to unearth the difficulties attending its erection, which I vainly hoped had been for ever buried beneath its shade.

In some respects I cannot regret being called upon to give an account of this work. It will afford me the opportunity of criticising several criticisms made upon certain features of the design; it will enable me to bring before you the results of some interesting and instructive experiments. And, yet further, it will serve to show the readiness of my will to add to the resources of this Association, although it is so little that I am ever able to do for it.

I exhibit about 100 sheets of drawings, some of these, unfortunately, are only tracings, and of others I have no proper copy. The schedule numbers amount to about 140 drawings. I exhibit also a few preliminary sketches and photographs. The first sketches were made at the beginning of June 1873, and the contract signed in the middle of August, and the church was consecrated on September 30, 1874. There still remain to be finished the principal part of the carving, decoration of the walls, and stained glass windows, with the exception of the three easternmost windows of the apse clerestory.

The building is not for a district church, but for a chapel-of-ease to the old parish church of St. Mary, Battersea.

General Plan.

It will be seen from the plan that the church consists of a fair sized chancel, with a polygonal apse, and an ambulatory leading down by steps on either side to a crypt below; a large clerestoried nave with north and south aisles, and a small bell tower over the western bay of the south aisle, brought flush with the west wall of the nave. There are also north and south transepts to the western bay of the chancel. The north transept serves at present as a chamber for the temporary organ. It has a small aisle on its western side to give freedom of access to this part. At the north-east corner of this transept a small priest's vestry is screened off, which serves for daily use. It is furnished with a locker and piscina. It has a separate window, besides the large window which properly belongs to the transept. The new organ, when finished, will be placed in the south transept.

Entrances.

The entrances are seven in number. Besides the entrance immediately adjoining the vestry first named, there is one by the south transept into the ambulatory aisle. Then there is one on either side into the aisles of the nave, just to the west of the second pillar, one at the west end of the nave, and there are two in the crypt, north and south. That on the south side comes immediately beneath the south entrance to the ambulatory. There is an ordinary porch to the principal south entrance, but the west end entrance has a vestibule, which serves as a shelter in cases of funerals and on other occasions. This is a lean-to building, 8 feet 6 inches, with a canted projection, one side of which is made to form the external boundary of the ground, and the other is set at an angle corresponding with it. This accounts for the peculiarity of its form.

Ambulatory.

The ambulatory round the apse is lighted with lancet windows, graduated in height according to the rise of the ground and of the steps from the crypt. It is covered with a lean-to roof, over which rises a clerestory of seven windows.

Crypt.

The crypt itself forms a good-sized room for classes, choir practice, and choir vestry. It is about 40 feet by 35 feet. It has a ceiling vaulted in brick, on brick pillars with stone caps. This ceiling rises in height east-

wards, following the rise of the steps of the chancel floor. It has, as named above, an external entrance on either side. The portion under the north transept is set apart for the warming apparatus. That portion under the south transept is partitioned off for a clergy vestry. The whole of its west wall under the chancel arch is lined with boarding, and filled with pegs for surplices and hats. The crypt is floored with my usual description of wood-block paving. The steps, the treads of which are composed of slate nosings filled in with tile on brick risers, are a little winding to follow somewhat the bends of the apse.

Dimensions.

The principal dimensions are as follow:—Chancel, 40 feet 6 inches by 18 feet 9 inches, with ambulatory 5 feet wide. Transepts about 16 feet by 14 feet. Nave, 79 feet 4 inches by 24 feet, with aisles 8 feet 6 inches wide. South porch, 8 feet 6 inches by 7 feet 3 inches.

Chancel.

The chancel consists of three parts—choir, middle space, or cross-passage, and sanctuary. The choir itself occupies the single bay comprised by the large arch opposite the transept. The cross-passage takes the westernmost bay of the arcade of the smaller arches; and the sanctuary is bounded by the apse of seven arches of equal span. The sides of the first bay are but very slightly inclined from the side walls; the angles of the others are not quite equal. The roof is of a kind of hammer-beam construction. The wall-pieces are carried down on to carved stone corbels, which cut into the meeting of the splay of the windows. There is a low wooden chancel screen without gates, formed by filling in the stall ends with pierced panels.

The choir is fitted with seven stalls, and subsellia for eleven boys on either side. The rise from the nave to the altar is by nine steps in all—two at the entrance of chancel, two at the east end of stalls, three at the altar rails, and two for the foot pace. In the tile paving (drawing exhibited) are introduced seven subjects from the Old Testament typical of Christ's priestly office, set in mosaic tesserae and marble. These subjects are (1) Abraham offering Isaac, (2) Moses striking the Rock, (3) Moses lifting up the Serpent in the Wilderness; (4) The Feast of the Passover, (5) Abraham and Melchisedech, (6) Joseph and his brethren, (7) Abel slain by Cain. They were designed by Clayton & Bell, and executed by Minton for a similar position in the vicar's former church of St. Andrew, Derby. Round the apse, between the pillars, runs a dwarf wall of brick and tile, with piercings. The altar is of oak, the table being supported on four octagonal pillars in front, with cusped braces and close panelling recessed behind. The reredos also is in oak, panelled to receive decoration. The framed post at each extremity carries a carved angel with outspread wings. In the centre rises a gilt cross upon an open radiating fretwork background. This occupies almost the space of one arch. The whole stands forward one bay.

Nave.

The nave is divided from the aisles by an arcade of four broadish pointed arches with a smaller blank bay to the west. The blank wall on the south side carries the tower, which opens into the south aisle with a double ribbed soffit arch corbelled out. In the clerestory and roof, however, the entire length is divided into four equal bays without reference to the arches and pillars below. The wall-pieces and braces under the tie beams are carried on brick shafts with stone caps and corbelled bases which terminate on the string course. The clerestory windows are two-light, with pierced stone quatrefoil in head; and there are two large lancets in the gable over the west door.

Aisles.

The aisles have lean-to roofs, which are divided into bays, following the divisions not of the nave roof but of the arcades, so as to bring the wall-piece and collar brace into the spandrel. The windows are triplets under a containing arch—the side lights being cusped—and are spaced in the centre of each bay.

Transepts.

The north transept projects 7 feet 6 inches beyond the aisle, and the south transept 3 feet 6 inches only. Their roofs are of the same pitch as those of the aisles, and mitre partly with them, but the eaves are higher. They are hipped, and finished with an iron terminal cross.

Tower.

The tower is small, being only of the width of the aisle, 8 feet 6 inches square inside, and 15 feet square outside. It is finished beneath the spire with a brick corbel table 5 feet high, added to the design subsequently to give greater height. The base of the spire is now only about 7 feet higher than the ridge of the nave roof. Ordinarily the whole of the belfry stage ought to be above the level of the nave roof. It is proposed to have only hemispherical bells. A brick tower of this size would of course take only two proper bells. Its inner square is, however, further enlarged to 12 feet 9 inches by the belfry stage being carried up in wood framework, and this would take six fair-sized bells. The wood spire is covered with oak shingle. A newel stairs to the first stage has been introduced in lieu of a ladder. It is constructed with a 9-inch brick circular newel and slate steps built in, with open risers. The remainder of the ascent is made by a step ladder round the sides of the tower.

Nave Fittings.

The seats are the simplest open benches. They stand on a floor of wood blocks such as I commonly use for this purpose. The passages are laid with common red and black Leicestershire 6-inch tiles with borders of Godwin's, of Lugwardine. The pulpit and lectern having been gifts to the iron church, now removed, have been replaced in the new church. There is to be a library desk in the front of the chancel. The font was made by Mr. Faulkner, of Exeter, a man who takes a genuine interest in his work. The bowl is a fine piece of polished Castle Down Devonshire marble. It is circular on plan and rounded in section, with stools left in the solid for receiving the caps of the angle shafts. The centre shaft and four angle shafts are of red and grey Dartmoor granite. The base and

carved cap are of freestone. The cover is conical, suspended from the arch with a counterpoise. In the bottom of the bowl are embedded some pebbles brought by the vicar from the River Jordan.

Warming.

The warming is done by air warmed in a chamber and circulated by means of an ascending and a descending flue. The apparatus is a powerful cast-iron gill stove, so constructed as to burn from 12 to 15 hours at a regular pace without replenishing, so that by feeding night and morning it may be kept going continuously. The first time it was lighted it burned 17 hours, but some alteration was necessary, and this arrangement is temporarily at fault. The chimney top is covered over with a stone cap, open east and west. When there was an east or west wind all the smoke went down instead of up. This has been effectually cured by a hood on either side to exclude the down draught.

Criticisms.

Having now given a general description, I propose to notice some criticisms which have been made as to the treatment of certain parts of the design. Although I defend this treatment, I think I may say that I should be equally ready to admit it to be indefensible if good reason were given for showing it to be faulty.

1. Exception was taken in the plans to the poverty of treatment shown by the low and hipped roofs of the transepts. Here I contend that, apart from consideration of cost, which yet must be considered, the general design must have suffered if these roofs had been carried up with gables in the more usual way, as shown upon one of my first sketch elevations. The more pretentious treatment would have been to the detriment of the chancel and nave, to which I wished to give the chief prominence, and the grouping and intersection of the roofs would have been less satisfactory.

2. Another very material objection has been made to the division of the bays of the roof not coinciding with the arches beneath. It has been alleged that "in fact no rule has been followed." It is true that the piers between the windows of the clerestory are not immediately over, and do not have an equal bearing upon, the pillars of the nave below, and that the vertical continuity is, in consequence, broken in respect of appearance also. But as regards construction, there is ample distribution of weight through the depth of the sills and the bearings of the mullions upon them. And clearly a rule has been followed in the equal division of the clerestory bays and in the equal division of the arcades after cutting off the square required for the tower, which leaves a blank bay of 9 feet at the west end of the nave. The spacings of the clerestory were carefully considered in their proportion to the spacings and height of the arcade; and I contend that the gain is greater by breadth and repose through the division of the roof into four equal parts, and through this horizontal division, than would be compensated for by a mere vertical correspondence of parts. In old churches it will be found that when the space of the arches is unequal, or there is a pier at the west end, the roof is more commonly divided into equal bays. A western pier of such extent as this may not be usual, but I contend further that the treatment is justified by the result. The absence of rigid uniformity, though considerable and sufficient to challenge criticism, is not yet so great as to be objectionable.

3. The next criticism is the excessive plainness of the west elevation externally, caused partly by the face of the tower being built flush with that of the gable without any compensating relief. I admit that the space is large and plain; but I think very few will accuse it of meanness or insignificance. It will improve upon acquaintance, and I feel sure that had so small a tower been more detached the treatment of the west end would have been fairly open to this objection.

4. It has been objected that the first side of the apse is at so small an angle with the wall, where it leaves the straight line, as to be not sufficiently marked or perceptible. Now this, I maintain, produces the effect, which I meant it to produce, of increasing the interior perspective without calling special attention to it as a cant, and without injuriously reducing the breadth of the other bays. Moreover, it eases off somewhat the harshness of the next principal angle which would have been objectionable, and it leads on the eye gently and satisfactorily into the other.

It is well that such details of treatment should be sometimes discussed from an æsthetic as well as from a constructional point of view, and I have thought it worth while to enter into them in detail, and more especially as these are matters to which I devoted more than ordinary care and thought, and which, without being open to the criticism of being commonplace, are, as I contend, perfectly defensible. At all events they have proved to be not beneath criticism.

Construction.

We now come to a few of the details of construction and material to which it may be worth while to call attention. And first as to the foundations. These are built upon a stiff clay on the side of a hill sloping to the east. The concrete for foundations is specified as follows:—"Concrete to be made carefully by measure of four parts, strong coarse gravel or flint rubble, one part small brick ballast free from dust, one part clean and sharp sand, and one part ground stone lime. The whole to be carefully and thoroughly well mixed, and then wheeled hot into the trenches and properly levelled." The width of concrete foundation of the aisle wall is 5 feet. The width of concrete is a matter of the first importance. Width, indeed, gives commonly greater security than depth.

Walls.

The walls are constructed of cement filled in to a casing inside and out of brick. The casing is of 4½ inches, or half-brick work. This is bonded into the cement every tenth course with a through course of bricks, and every intermediate fifth course with a course of headers projecting into the walls. Lias lime from near Rugby was used for the concrete of the foundation, but Portland cement was used for the filling of the walls in the proportion of 6 to 1, which is the minimum of cement allowed by the Metropolitan Board of Works. The concrete was made well up to the mark, and when an additional doorway was cut through for the north-entrance to the crypt it was

with difficulty that the work was accomplished. It had been executed some three or four weeks. The walls are indeed all that could be desired. There is no danger of the wet driving through them or into them. There was no fracture or unequal settlement from top to bottom, or from one end to the other, with the exception, which I shall now proceed to point out, and which shows that the usual consolidation of work took place, but that the whole has gone equally and together; unless, indeed the consolidation is a mere compression of foundation. The arched entrance to the western vestibule abuts on one side upon the tower. The walls of this vestibule are low. The weight of the half gable is too slight to be of any account, and the consolidation or compression on the tower side carried the point of this arch down with it to the extent of about 1½ inch, and necessitated its rebuilding.

Difficulties.

The description of work being new, a few difficulties necessarily presented themselves in the early part of its execution. One of the first questions which arose was as to the filling in of the concrete, in the absence of any frame, without disturbing the five courses in height of half-brick casing. It proved, however, to be only an imaginary difficulty, and gave no real trouble. But another difficulty did show itself. This was from the swelling of the concrete in setting; for, being filled in to the height of the five courses from the bonding to the heading course, and again up to the bonding course, it was found at first that the cement expanded nearly 3-16ths of an inch on each side, pressing the casing out of the upright to this extent. It seemed to act more on the upper courses than on the lower, and it caused a spreading upwards, and not a mere horizontal displacing of the whole equally in a horizontal direction. In order, therefore, to obviate this, every space of 15 inches in height was built to batter that much inwards, and this was found to rectify itself in setting. I then had the cement emptied out on to a floor in a shed, and turned over several times in the course of two or three days before use. This set without perceptible expansion, so that no further difficulty arose on this score. Then, again, in execution the cost in scaffolding and labour was increased by the necessity of distributing the work over a larger area in order to avoid carrying up more than about 2 feet in one day, so as to allow it to set properly before being loaded with another course. The difficulties, however, in the construction of these walls proved to be less formidable than those connected with the permissions requisite for adopting it. It was a construction contemplated neither by the Church Building Societies, Incorporated and Diocesan, nor yet by the Building Act and Metropolitan Board of Works. In the case of the former this mode of building stood in the way of grants towards the building, and in the case of the latter it stood in the way of building at all without special permission first obtained. The Act of Parliament, in providing for cement walls, requires that they shall be the same thickness as required for brickwork, and it requires "the due application of a mould or machine for giving cohesion to the work during its progress;" but there is no provision for brick frames, nor for any such combination of concrete with brick. Moreover, it was supposed to be subject to "several special dangers, as, e.g., from unequal expansion or shrinkage in the respective materials, or from unequal pressure, or from the possible separation of the brick from the concrete. It was thought in setting there might be too little consolidation in the brickwork, by which an undue weight would be thrown on the casing, and cause it to buckle out from the concrete; or, too much shrinkage, which would leave the casing suspended loose between the bonding courses, so as to afford an insufficient support to the walls. And, again, the thickness of brickwork would perhaps leave a wall of concrete so far reduced in thickness as not to be sufficient to fulfil the provisions of the Act, which requires that concrete walls shall not be less than the usual thickness required for brickwork. I believe, however, that these walls are better than wholly concrete or wholly brick. The aisle and transept walls are 27 inches thick, or one inch more than required by the Act; but the arcade walls are 33 inches up to the spring, or 7 inches more than required, and the clerestory walls 28 inches, or 2 inches more than required. The main gable walls are 36 inches. After some negotiation, a sample of the work was prepared, submitted to the authorities, and approved. But when the license came it was accompanied by a stipulation that the brick casing should likewise be built in cement instead of mortar, and the work then proceeded at an increased cost of 112%. The concrete being of cement, it was no doubt better that the casing should be built in cement also. This cement mortar was made in the proportion of 1 to 5 of local clean pit sand and unwashed.

I am sorry to say that the result of the experiment of brick and concrete in respect of cost was not satisfactory. A deduction was made from the estimate in consideration of using concrete instead of brick for the filling of the walls to the extent of 450%, less 112% for building the casing in cement, leaving a deduction still of 338%; but it appears that there ought to have been an addition instead of a deduction to pay for the extra labour.

Bricks.

The bricks used in the buildings are principally stocks from Teynham by Sittingbourne. The red bricks for buttresses, quoins, jambs, arches, and bonds are from Slough. The moulded bricks are from Locke & Sons, Aylesbury, the yard from which I had the whole of the bricks (except for the pillars) for St. Saviour's Church, Aberdeen Park. The bricks at St. Mark's are of the thickness of a common brick, whilst the thickness of those at St. Saviour's was only 2½th. The moulds, therefore, for St. Mark's were necessarily new, though some of the mouldings were almost identical; but the bricks for the pillars came from Coalville, near Leicester I had on previous occasions used Staffordshire pressed bricks for pillars. And I was led to think that the Coalville pressed brick would be equal to them, but it proved otherwise as we shall see presently. Previously to the contract the question was discussed whether stone should not be substituted for the bricks for the pillars. It seemed, however, unnecessary, and in the case of the chancel arcade the bricks have stood perfectly well. But when the clerestory came to be added to the nave some of the bricks showed very slight signs of fracture. We then had some samples (six of each sort) tested by Kirkaldy's hydraulic steam press. At the same time

we put to the test two portions of pillar, each 2 feet long, constructed for the purpose. This test was scarcely a fair one, for the cement work was still somewhat green. Nevertheless it was found that the more matured of the two would bear nearly twice the load which it would have to carry before it showed any sign of distress. But the actual safe load to allow for unequal strain and imperfect bearing is usually estimated at only one-tenth of the sustaining power. And as the bricks in the pillars already seemed to show signs of weakness, and as some fractured brick at any rate would have been inevitable, although they might have stood without actual danger, it was considered better even now to substitute stone. Pennant stone pillars, therefore, were introduced. The arches were shored up, the brick pillars cut away, and the stone inserted. The stone was in three courses, with a bed of 5 or 6 lbs lead between each. They were fitted with such accuracy that there was the greatest difficulty in getting in the last stone. The load could not be lifted the fraction of an inch, and as a last resource the beds of all the top stones were greased, and the stones hauled in by the force of a tourniquet, formed of two ropes, with a lever between to twist them up.

It will be interesting as well as instructive to give the tabulated results of these experiments. It is to be observed that in the case of moulded bricks or stone, the first fracture takes place always at the diminished area of the section. The pressure on each part of the brick being equal, the diminished parts (having less lateral cohesion) will yield sooner than those having the greater mass. And on this account a moulded brick will not take so much pressure as a plain one in proportion to its sectional area; and, especially in the case of pillars, this becomes of considerable importance.

The following were the tables showing the results of the experiments:—

Coalville pressed, red, pattern C., 2·7 inches thick, 9·3 × 4·85 = base area, 45·1 inches.

	Stress in pounds when		
	Cracked slightly.	Cracked generally.	Crushed, Steelyard dropped.
	106,000	191,000	212,700
	102,000	188,000	194,180
	96,000	178,000	189,500
	92,000	173,000	184,820
	88,000	151,000	168,880
	83,000	147,000	161,550
Mean of six bricks . . .	94,500	171,333	181,955
Pounds per square inch . .	2,095	3,798	4,034
Tons per square foot . . .	134·7	244·2	259·4

Maximum : 151 tons per square foot } 5 to 4
Minimum : 120 " " }

The same, pattern D., 2·82 inches thick, 8·6 × 4·2 = base area 36·12 inches.

	Stress in pounds when		
	Cracked slightly.	Cracked generally.	Crushed, Steelyard dropped.
	58,000	99,000	128,280
	44,800	87,000	121,760
	39,000	68,000	128,740
	37,000	61,000	93,840
	36,000	59,000	87,960
	35,000	54,000	81,820
Mean of six bricks . . .	41,166	71,333	102,733
Pounds per square in. (mean)	1,139	1,974	2,844
Tons per square foot (mean)	73·2	126·9	182·9

Maximum : 103 tons } 5 to 2·9
Minimum : 59 " " }

Aylesbury red moulded, 2·66 inches thick, 8·8 × 3·9 = base area 34·32.

	Stress in pounds when		
	Cracked slightly.	Cracked generally.	Crushed, Steelyard dropped.
	34,000	58,000	63,920
	33,000	51,000	62,200
	32,000	49,000	55,870
	30,000	45,000	52,950
	28,000	39,000	52,110
	27,000	36,000	51,820
Mean	30,666	44,333	56,478
Pounds per square inch . .	893	1,350	1,645
Tons per foot	57·4	86·8	106·7

Maximum : 63 tons } 5 to 4·05
Minimum : 51 " " }

Red Bricks from Slough.

	Dimensions in inches.	Stress in pounds when			
		Base area in inches.	Cracked slightly.	Cracked generally.	Crushed, Steelyard dropped.
	2·50, 8·90 × 4·10	36·49	60,800	67,000	71,850
	2·55, 8·90 × 4·10	36·49	59,000	65,000	70,980
	2·50, 8·90 × 4·10	36·49	58,000	60,000	69,530
	2·55, 8·90 × 4·15	36·92	53,000	54,000	66,840
	2·55, 9·00 × 4·20	37·80	46,000	49,500	65,870
	2·55, 9·00 × 4·15	37·35	41,000	47,000	61,940
Mean of six bricks		36·92	52,966	57,083	67,501
Pounds per sq. in. (mean)			1,434	1,546	1,828
Tons per sq. ft. (mean . .			92·2	99·4	117·5

Maximum : 106 tons } 5 to 3·3
Minimum : 70 " " }

Common Stock Yellow.

	Dimensions in inches.	Base area in square inches.	Stress in pounds when		
			Cracked slightly.	Cracked generally.	Crushed, Steelyard dropped.
	2·50, 8·90 × 4·00	35·60	62,000	81,000	89,940
	2·60, 9·00 × 4·30	37·80	54,000	65,000	70,810
	2·50, 8·90 × 4·20	37·38	44,000	53,000	56,830
	2·50, 9·00 × 4·20	37·80	36,200	42,200	51,900
	2·60, 8·90 × 4·30	37·88	28,800	33,000	42,110
	2·50, 9·00 × 4·30	38·70	25,100	31,000	33,940
Mean of six bricks		37·44	41,983	50,683	57,688
Pounds per sq. in. (mean)			1,113	1,357	1,536
Tons per sq. ft. (mean . .			71·5	87·2	98·7

Maximum : 112 tons per foot } 5 to 1·9
Minimum : 42 " " }

Moulded Pillar A.

No. 1. 949, with red brick in centre.

161,300 lbs. stress, 2 corner bricks cracked
232,800 " 4 additional
296,800 " bricks cracked generally
352,820 " pier crushed

Moulded Pillar B.

No. 1. 948, with stock bricks in centre.

200,000 lbs. stress, slightly flushing.
255,720 " cracked on crushing.
326,840 " several cracked, four crushing.
395,280 " pier crushed.

Strength of Pillars.

In these pillars the bricks were very hard, and they were soaked in water for twenty-four hours before use. The cement was gaged in the proportions of one part of cement to two parts of very fine but very sharp sand carefully washed. The question as to the best proportion of sand to the cement is an important one. I know it is held by some that, for such a purpose as this, neat cement is the strongest on account of its more equal texture. I do not know what experiments have been made as to this, but I think it is open to question whether it would not have borne a greater pressure with a larger proportion of sand. Some say that neat cement is strongest. But so far as I can make out from the results of experiments, I should judge that from 3 to 3½ parts of sand would make the strongest work. The grain of the sand is in itself harder than that of the cement, and the cement used ought to be enough only to fill up to and unite the particles of sand. But on the other hand it may be a doubtful benefit to have the cement much, if at all, harder than the brick which it is used to set. It ought rather, I should think, to be as nearly equal to the strength of the brick as it is possible to make it, so that the resistance may be equal throughout the mass, and the pressure equally distributed. Moreover, the adhesion of the cement to the brick is of far greater consequence than mere hardness, not only on account of equal pressure, but of binding the brickwork together laterally; and neat cement will not properly adhere at all. Moreover, with neat cement or with too great a preponderance of cement there is the greater chance of expansion in the setting. And it is evident that supposing the expansion to take place when the pillars are heavily loaded, the expansion being vertical in the thickness of the joints rather than horizontal, crushing must take place if the load cannot be actually lifted by it. So far as I can see from the experiments made to test the selenitic mortar, the strongest qualities were made with 3 to 4 parts of sand. But possibly this may apply only to selenitic lime, and not to cement. Then, again, it is of the greatest consequence that in such pillars the bricks should all be of similar kind and texture, of equal strength, and of perfectly level bed. This, in the case of very hard bricks, should be done by rubbing before burning. Some go so far as to say that similarity of material is of such consequence that detached shafts of stone round a brick pillar afford no kind of support beyond either the one or the other material, whichever it may be, that happens to take the weight. There may be good arguments in defence of this view; but there are also good arguments against it, and I should like to see them substantiated by experiment. In any case, of course, one must not estimate the strength of a pillar at more than that of the minimum resistance of its weakest part; for if one section fail, the whole will lose its proper bearing, and throw an undue strain upon the remainder, thus reducing the sectional area in proportion to the weight to be carried. But the strength of the brick pillar when built is estimated by recognised authority at only one half of the material of which it is com-

posed. A commonly adopted formula gives 4 tons to the square foot as a safe load for a pillar of brick, but allows only 3 tons on the same brick when built in cement, and 2 tons when in mortar. Cement is reckoned to crush with 40 tons per foot, and mortar with 20 tons. There seems no reason why the net strength should not be taken at a minimum of 4 tons even upon this basis. Now, according to our experiments the minimum resistance, the resistance of the weakest of six moulded pillar bricks experimented (pattern D) proved to be, as compared with that of the maximum, only in the proportion of 3 to 5, or not much more than half. In the other, however (marked C), it was much better, the difference being only as 4 to 5.

The Safe Load.

From the varying strength of the mortar or cement, whichever it may be, it is less easy to estimate the resistance relatively between built and unbuilt bricks. And we find in the other case that whilst the strongest of the pillar bricks (pattern C), fractured with a pressure of 151 tons per square foot, and the weakest (D), with 59 tons, the pillar itself fractured with only 40 tons per foot. I estimated the load to be carried by each of our pillars, including allowance for pressure of a gale, at 48 tons upon an area of 2 feet 3 inches, or 21 tons per foot super, about twice the load to be put upon it. Now, according to prevailing ideas, a resistance of 21 tons per foot would be lamentably insufficient for safety. Instead of putting the safe load at one-tenth, it would be putting it at nearly one half. The rule, however, of estimating the safe load at only a tenth of the first fracture strain errs so ridiculously on the side of excessive strength and waste of power, and is so wholly at variance with daily experience and observation, that it would be practically impossible to work by it; and thus, after all, one is thrown mainly on one's own judgment and common sense. Indeed, it renders these calculations all but useless for such purposes as the present, even if necessary for engineering purposes. For instance, such pillars of brickwork in cement, with an estimated fracture of 30 tons per foot, ought, in order to carry the 48 tons in these arcades, to be more than 4 feet 6 inches in diameter, instead of 1 foot 8½ inches, or piers of the full thickness of the wall to be carried by 6 feet long. And even with the greater strength of 40 tons per foot, in accordance with our experiments, the pillar would still be left to be nearly 4 feet in diameter. And the pillars at Lyndhurst Church, instead of being 14 inches within the shafts, must have been more than 2 feet 6 inches square to carry 18 or 20 tons, dimensions which we never dream of making them.

Pillar Tests.

Now let us compare results. The load to be carried was 21 tons per foot. The rule, according to book, would give 30 tons per foot for first fracture. The tested pillar which had not reached nearly its full strength carried 40 tons per foot; and perhaps a tested actual strength of twice the first fracture might be considered enough for security. As already observed, two samples of pillar were prepared; but the cement had not yet had full time to season when tested. The one (A) had been made only ten days. I shall merely say in passing that it bore only two-thirds of the weight that the other carried. (B) had been made only 18 days, and its strength would have increased materially for some weeks. The resistance at first fracture in pillar (B) was nearly 90 tons, or nearly 40 tons per foot superficial, and this, apart from its increasing strength, might be considered sufficient to carry the load of 48 tons, or 21 tons per foot superficial.

Height and Strength.

But in estimating their power of resistance allowance must be made, as on the one hand for this further setting of the cement, so on the other for diminished strength by the height of the pillar, which in long columns is a material consideration. The height of a pillar in proportion to its area or diameter must be taken into the account, and the ratio of diminished resistance by the extra height is considerable. In the tables in common use this is very loosely and diversely estimated. From a memorandum kindly furnished me by Mr. Watson, another authority gives the following for crushing weight on cubes of ½ of an inch:—

Bricks, ½ a ton.	Lime mortar, ½ of a ton.
Place bricks, ½ of a ton.	Net cement, ½ to 1 ton.

Pillars diminish in strength at a height of 5 diameters, and should not be loaded beyond ⅓ of their proper weight. If 10 diameters high they should not be loaded beyond ¼; or 20 diameters high, ⅕. But the following table of first fracture is from Hurst, and is reproduced by Sprague:—

Pillars of brick (ordinary), 40 tons.	Pillars of brickwork in cement, 30 tons.
" " (strong well-burnt), 70 tons.	" " mortar, 20 tons.
" " (fire), 100 tons.	

No pillar or support of stone or brick should exceed in height 12 times its least thickness at the base; when more than this there is a considerable falling-off in strength. A height of 24 times the thickness (a height about which I may be pardoned for being somewhat incredulous) "reduces the strength from 10 to 7, when increased to 30 times the strength is reduced to ½, and when increased to 40 times the strength is reduced to ⅓. In practice the load should seldom exceed ⅓ of that required to produce fracture." There we have the reduction in strength by ⅓ of the load according to one authority, at 10 diameters in height; and according to another, at 40 diameters. I believe, however, that it will be found that the reduction in strength diminishes more or less rapidly according to the strength and lateral cohesion of the material. Two series of experiments, each consisting of four specimens made by Mr. Kirkaldy upon Doulting stone, one on its proper bed and the other on its side bed, may serve as some guide in this matter. In the experiments of the one tested on its proper bed, the ratio of diminished resistance, inversely, of course, in proportion to height, is so remarkably regular that the results may be worth tabulating and reducing to an available standard, that we may see at a glance what this ratio is, even though they must not be considered conclusive as taken alone, nor sufficient as being only the comparison between

the bed and counter-bed of some isolated specimens. And here again I give round numbers without encumbering the results with needless fractional parts, which may tend to confuse rather than to make plain. In the case, then, of the stronger specimen, the one on its natural bed, the first cube of 6 inches was crushed with 160 tons per foot super; the same base, but double the height, with 145.5 tons; three times the height, with 140 tons; and four times the height, with 137. It will be seen by the table that, within a very few pounds, this gives for the ratio of diminished strength a deduction of ⅓, ⅔, ⅔ respectively, or ⅓ part off for the double height, and a ⅓ part off each remainder for each additional cube in height successively. And in the same manner in reference to the other, the one cube 6 inches high crushed with 157 tons per foot super; twice the height, with 141.3 tons; three times the height, with 125.6 tons; four times the height, with 117.8; this ratio being a deduction of ⅓, ⅔, ⅔ respectively, showing not only greater weakness but less regularity. At this rate, in case of the stone on its natural bed, the diminution of strength would be by ⅓ in 11 diameters of the square pillar in height, and by ⅓ in 20 diameters; and in the other there would be the same diminution ⅓ in only 5½ diameters, and a diminution by ⅓ in 9 diameters.

Experiments on Doulting Stone.

Crushing weight on the natural bed, about 6 inches square—

Height	6 in.	12 in.	18 in.	24 in.
lbs. per square inch . .	2,460	2,265	2,174	2,105
Decrease of strength . .		⅓	⅔	⅔

Or diminution from each successive remainder—

2,460, less ⅓ = 2,264, less ⅔ = 2,189, less ⅔ = 2,116

Approximately reduced to—

Tons per square foot super	160	145.5	140	137
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Crushing weight on counter-bed, about 6 inches square—

Height	6 in.	12 in.	18 in.	24 in.
lbs. per square inch . .	2,441	2,189	1,952	1,836
Decrease of strength . .		⅓	⅔	⅔

Or diminution from each successive remainder—

2,441, less ⅓ = 2,197, less ⅔ = 1,955, less ⅔ = 1,852

Approximately reduced to—

Tons per foot super	157	141.3	125.6	117.8
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But when we come to pillars of more than 10 diameters, we fall within the operation of further elements of weakness, by the strains of bending and buckling, into which we need not enter. But here it may be well to bear in mind another consideration. I believe it to be recognised that there is a perpetual reduction in the resistance of material, if the height is less than the diameter of the square pillar. In the case of pillars perhaps we may conclude that the more nearly to a cube each course of stone is, the stronger they are likely to be.

In conclusion, Mr. WHITE said that he had gone into some questions in detail, but the investigation had been of considerable interest and use to himself, and he trusted might not be without its interest and use to others.

Mr. QUILTER desired to state that in a church which he had built his construction of the walls had not been the same as the method adopted by Mr. White. His (Mr. Quilter's) aim had been not so much to obtain a thick wall at a reduced cost, but a waterproof wall. His walls were 18 inches in thickness, and there was an alternate bonding all the way through. The building reflected credit upon Mr. White, although not appreciated by some in the neighbourhood, or by those who appreciated a "spick and span" sort of structure.

In reply to a question from Mr. L. W. Ridge, Mr. QUILTER stated that in the concrete he had used he had mixed one-sixth of Portland cement with the lime. He proposed a vote of thanks to Mr. White.

Mr. J. DOUGLASS MATHEWS, in seconding the proposal, said it had always struck him in regard to concrete building that everything depended upon the foundation. He understood Mr. White to say that the church was built on clay. He had said that the aisle walls were 5 feet in width, but did not give the thickness of them. He had said that width was of more importance than thickness, but this statement must be received with some caution. If the foundation were fairly good, there need be no fear in a concrete wall, but unless the foundation was good such a wall would not answer so well in the absence of bond. It appeared that Mr. White obtained a certain amount of bond by means of brick casing; but would not iron ties or iron hoop bond be better? He had been surprised to hear of so much swelling in the concrete. They knew that Portland cement did swell, but this, as a rule, was provided for by the numerous interstices. Notwithstanding all Mr. White had said in favour of an equal division of the clerestory, he (Mr. Mathews) did not like the irregular loading of the nave arches. He thought that the placing of the clerestory windows in the centre of the arches would have been more satisfactory.

Mr. PAYNE thought that the Paper was very valuable in connection with the treatment of concrete, which was now becoming a building material. He had hoped to hear something respecting the artistic treatment of concrete externally, as well as of its use internally. Builders were in the habit of saying that a saving of one-half was effected by the use of concrete, but his experience was that very little was saved by it.

The VICAR of the church commended the excellence of its arrangements, and said that it was admirable in point of sound. The vestry was very comfortable, and the ambulatory was well arranged. In these days, when so much was thought of histrionic worship, the effect of the choir, ascending as it were from the subterranean regions, was very interesting. Though unable to offer any opinion upon the church from an artistic or æsthetic

point of view, he might say that for all practical purposes the arrangements were excellent.

Mr. ROBERTSON expressed his strong sense of the value of the Paper, which was all the more useful from the fact that it was not a record of a work which had been attended by uninterrupted success. The results of the experiments which Mr. White had made were very interesting, and he hoped the tables would be published. It appeared that the load to which the pillars were subjected was 21 tons per foot, but he had read elsewhere of 12 tons per foot being the maximum load in structures in brickwork, that being the weight on the pillars of the Charing Cross railway bridge. The great source of weakness was in the vertical, not the horizontal joints, and this might be counteracted by the use of iron casing. It was satisfactory to know that Mr. White had taken an independent course, without reference to engineers. Mr. White had expressed an opinion that in a stone pillar the maximum of strength would probably be obtained if the stones were cubes; but he (Mr. Robertson) ventured to differ from this view, and to suggest that the maximum of strength would more likely be obtained if each pillar were a monolith.

Mr. S. F. OAKMAN said that the church had been admirably adapted to the slope of the hill, and was excellent in point of site.

The vote, having been put from the chair, was carried with acclamation.

Mr. WARRE acknowledged the compliment, and briefly replied to the points arising in the discussion. As to the question of the breadth of concrete for foundations, he had said that it was ordinarily better to have greater width and depth, and he was certain that such was the case in reference to clay foundations. Objection had been made to the employment of only one course of bonding, but he resisted that upon the ground that the bonding was only for tying in the brickwork; and he would not on any account use iron binding, as it was liable to rust and decay. As to the artistic treatment of concrete, he did not believe in it. The total cost of the church would be about 7,600*l.*, or from 11*l.* to 12*l.* per head. With regard to the smallness of the weight on the pillars of the Charing Cross railway bridge, he believed that vibration had there to be taken into consideration.

MR. G. W. COPE, R.A., ON PAINTING.

ON Monday evening Mr. Cope, Professor of Painting in the Royal Academy, delivered the first of his series of lectures for this term before the students. He said it was necessary, before he proceeded to address those present on the high branch of art, that he should deal with a subject of vast importance to the young painter, and that was "Design." Design was the perfect representation of form without the aid of colour, therefore it nearly approached sculpture, and though some did not quite conceive its vast importance, design was as capable of giving beauty, action, character, and expression as it was of imparting form, proportion, strength, and grace. He then referred to the earliest examples of design in the Egyptian hieroglyphics, and pointed out that as most of the old painters died young they must have commenced their studies early. Titian alone reached the age of 99, Raphael and others being numbered with the dead before they had reached 40 years of age. The road to fame, it was to be presumed, in the earlier days, was shorter than it was at present, yet it seemed to be the rule now for our young men to waste precious time, as too many of them were to be found in the antique school copying statues. He thought there was great necessity that we should mend our ways, and suggested that much good might be done if some of our great painters were to secure sharp-witted young assistants, who, whilst they ground up their masters' colours, filled in his canvas, and became familiar with the routine of a studio, could not fail to acquire a taste for art. One of the great impediments in the way of attaining excellence was the labour expended over unimportant trifles; and those elaborate dark backgrounds and small stippled work with which drawings were now filled in were doubtless clever in themselves, but it was so much time needlessly thrown away. All that was wanted was a useful vigorous design, and when that was produced without the adjuncts he had alluded to time was not wasted. Whilst a young artist was drawing his line it was necessary he should think, for the hand gave unmistakable expression to the slightest hesitation of the mind, and if the attention was at all distracted eloquence would leave at once, and beauty and grace would most certainly become wanting. The more a young man thought the more rapid would be his progress, and as in writing too many words spoiled eloquence, so too many touches would spoil a design. The lecturer then proceeded to point out the importance, in human figure-painting, of a correct knowledge of the length of limbs and their relations and proportions to each other, and again urged on the students the desirability of throwing all their energy into the attainment of a perfect representation of the form before them rather than waste their talent on a clever reproduction of the deal box upon which the model stood. He then pointed out the importance of grouping figures together, reminded his hearers that Michael Angelo had said the eye not the compass was the true means of measurement, and concluded by advising the students to give more attention to outline than to shading.

MR. G. F. WATTS, R.A., AND THE MANCHESTER INSTITUTION.

THE following letter has been received by the Secretary of the Royal Manchester Institution, in reply to his letter to Mr. Watts notifying the award of the Heywood Prize for his picture, "Love and Death":—

"Dear Sir,—I am gratified by the communication you have conveyed to me. It gives me great pleasure to find the intention of a design by no means of a popular character receiving recognition. This I regard as a great encouragement to students who may have nobler aspirations than the ordinary professional inducements afford, and it will increase my satisfaction if the Council will kindly allow me to leave the same in their hands to be given next year, or any other year if nothing fulfilling their intentions should be exhibited next year, for the most poetic design, the best picture regarded from the highest point of view.—I am, dear sir, yours very truly, "G. F. Watts."

THE WESTMINSTER FRESCOES.

FOR some years it has been observed with regret that most of the frescoes in the Houses of Parliament were decaying. In Maslin's water-glass picture of *The Meeting of Wellington and Blücher*, the decay showed itself by an efflorescence which has spread over the whole surface of the picture. The same efflorescence has also, in a minor degree, appeared on parts of the companion picture by the same artist—*The Death of Nelson*. Some two or three years ago steps were taken to inquire what could be done to save these great works from destruction; but nothing was done beyond inquiry. The present Commissioner of Works, Lord Henry Lennox, however, has been fortunate enough to prevail on Lord Hardinge to preside over a small committee, composed of Sir W. Bonall, R.A., Mr. Richmond, R.A., Mr. E. M. Ward, R.A., and Mr. Watts, R.A., with a view of seeing what can be done. These gentlemen have met several times, and have made a very minute examination of the pictures. They have unanimously agreed to recommend a treatment every part of which Mr. Richmond has, at a great sacrifice of time, most generously agreed personally to superintend. The services of Dr. Percy and of any celebrated chemist they might wish to consult were also placed at their disposal. This treatment, which will be necessarily a very delicate work, will also be gradual; so that almost immediately after one corner of the picture has been treated, the success or failure of this first process will be apparent.

THE LIVERPOOL CORPORATION PICTURE EXHIBITION.

AT the meeting of the Liverpool Town Council, on Tuesday, Mr. Samuelson, in referring to the proceedings of the Library and Museum Committee, remarked that the last local exhibition of pictures was the most successful which they had yet had. No fewer than 332 artists contributed to the exhibition, 102 of them being local, fifteen Scotch, four Irish, and twenty-three foreign artists. The London Water Colour Society had exhibited 100 drawings, and several of the best pictures of the Royal Academy were shown. The attendance had greatly increased yearly, and the result altogether was every year more and more satisfactory. In 1871 the sales amounted to 6,395*l.*, in the next year to 6,214*l.*, the Corporation that year being themselves large purchasers; in 1873, the sales realised 7,402*l.*, and last year the amount was 9,526*l.* 8*s.* The Corporation had expended something like 2,000*l.* in pictures, and the profits of the past four years had amounted to about a similar sum.



Competition Referees.

SIR,—Kindly allow me space for a few words on the subject of referees and competitors, to which the attention of your readers has been so strongly directed in your last three numbers.

I have already said all that I can say with reference to the appeal of Mr. Edis in your paper of December 26, excepting this, that I have again applied to the committee, through their secretary, to allow me to make public the report on the designs for St. Stephen's, Twickenham, and have been informed that my letter, and the two numbers of your paper sent therewith, shall be laid before the committee at their next meeting.

With the general scope of the article in your paper of January 2 I entirely agree, though to its conclusion I must certainly demur, for I cannot think that a referee is bound to run the risk of legal pains and penalties simply because competitors have been so incautious as not to insist that any report made upon their designs should be considered as a public, and not a private, document.

When a similar difficulty arose with regard to my report on the Edinburgh Cathedral Competition, I drew attention to the necessity for this in a letter printed in your own columns, and I must continue to think that if competitors omit to take this precaution it is their fault, and not that of the referee who is asked to report on their designs. I should be the last to wish to act an ungenerous part to any of my professional brethren, but I do not feel called upon to sacrifice peace of mind and conscientious scruples because they, and not I, have failed in duty to themselves.

With regard to the article of Mr. E. W. Godwin in your paper of January 9, he is much mistaken if he thinks that I agree with the notion that because a referee "accepts a fee for his counsel or opinion, he is necessarily the servant or slave of the inviters, and bound to conform to their wishes." No referee worthy of the name could ever accept such a condition, and for my own part, to use his own words, I have never cared "two straws" whether those to whom my report was addressed liked my opinion or not. I have always striven, without fear or favour, to do justice to each competitor, and, that being so, have never in any sense desired that my advice should be kept secret. Mr. Godwin will from this, I think, see that I, for one, should not be likely to object to some at least of his proposed reforms in the practice of competitions. But who can control a committee?

My experience as a referee in such matters may be briefly stated thus:—In cases of public buildings, town-halls, markets, libraries, schools, and the like, in designs for which arrangements are possibly intricate and require an experienced eye to unravel them, or, as in the last-named, common-sense plans may be considered of more importance than handsome exteriors, the referee's judgment is always taken. But in respect of churches the case is different. Of designs for these, each member of a committee—and, without disrespect to the fair sex, I think it may often be said their wives also (and we know how their opinions may weigh in such a case)—thinks that he has as good a right to an opinion as the referee himself, and, provided the latter can point out no serious fault of arrangement, con-

struction, or estimate, it is the *pretty* and not the noble design that will too often carry the day; and not all the laws of the Institute or the reforms proposed by Mr. Godwin, unless backed by a vigorous rector or other important member of a committee, will be strong enough to prevent it. In my own experience (and I could quote some curious cases—one more especially, where the best design was seen by nobody until I unearthed it, and the beautifully-illustrated commonplace was flauntingly displayed for the delight of all comers), the worst design has certainly been twice voted for in spite of all remonstrances, but on the average the best has, I think, prevailed in about an equal proportion with something less worthy.

In conclusion, I also would say with Mr. Godwin that I "believe in the power for good of architectural competitions." In no other way, as a rule, has a young man of talent the power of making himself known as an architect, and if competitors will but act in a strictly honourable manner, skill and patience will generally in the long run meet with their reward; but I must again quote and agree with Mr. Godwin, that "the disappointments and unfair decisions in competitions are, in great measure, brought about by the architects themselves."

Your obedient servant,

January 12, 1875.

EWAN CHRISTIAN.

SIR,—I think the difficulty which Mr. Christian is placed in—not for the first time—viz., that he is urged by competitors to make public a report which a competition committee desire should not be published—may be easily obviated for the future if referees, when applied to, will stipulate for their report to be published. I have myself occasionally acted as a referee, and in every case, when applied to to state the conditions and terms on which I would act, I have uniformly expressed my strong wish that my report should be published. I have not hitherto made it an absolute condition, but I have always put it strongly as most desirable; and in those cases where my other requirements have been accepted I have always been told that the publication of the report would not be objected to, and, so far as I recollect, all my reports but one have been published in some way or other.

Your obedient servant,

T. ROGER SMITH.

General

Mr. Thomas Henry Watson, architect, has been elected to fill the office of District Surveyor for St. George's, Hanover Square, under the provisions of the Metropolitan Building Act.

Mr. John Miles Moss has offered 1,000*l.* to the Mayor of Liverpool as the foundation of a fund for improving the streets in the worst parts of the town.

Mr. F. W. Lawrence, of the Bristol Docks and Clifton Railway Extension, has taken the contract for the Banbury and Cheltenham Direct Railway.

Mr. Lewis Angell's plans for the drainage of Maidstone, estimated to cost 30,000*l.*, have been adopted by the Local Board of Health.

Signor Fumagalli, of Milan, has left to the Academy of Fine Arts of that city 80,000 francs, the interest of which is to be applied to giving an annual prize of encouragement to an Italian artist for a work of sculpture or painting.

The Bishop of Bath and Wells last week opened the Cottage Hospital which has been established in the Cathedral city.

Mr. George Cruikshank has issued a cheap edition of his famous series of etchings, "The Bottle," which originally were published in 1847.

Mr. Charles Gott, the borough surveyor and waterworks manager at Bradford, resigned on Tuesday. The salary is 700*l.* a year.

M. Léveque, a sculptor of some note in Paris, has just died at the age of sixty. Among his works may be mentioned Lesbia, Bacchus Overthrown (exhibited in 1855), the Amazon, the Saint Sebastian, and busts of Pongerville, Guyon, and Duhouset.

Mr. B. S. Lynam, Chief of the Geological Survey, now in progress in Japan, has issued a preliminary report on the Island of Yesso, which showed that coal, copper, gold, iron-sand, lead, limestone, manganese, rock bar silver, sulphur, and zinc may be found there.

M. Charles Garnier, architect of the new opera house, Paris, has been promoted to the rank of officer in the Legion of Honour, and MM. Jourdain and Louvet to the dignity of knights in the same order, for exceptional services in the construction of that edifice.

The Secretary of the Estate Exchange, Tokenhouse Yard, has published the following return of land and other property registered as sold by public auction and by private contract from January 1 to December 31, 1874, as compared with the preceding years, 1872 and 1873:—1872, 9,901,220*l.*; 1873, 8,948,362*l.*; 1874, 11,160,324*l.*

Lord Lyttelton, it is believed, will, on the first day of the coming session of Parliament, introduce a bill in the House of Lords for the subdivision of those dioceses which at present are too vast to be superintended effectively by a single bishop.

The Crown Princess of Germany has promised to present a stained glass window to be erected in the South Chapel of the Chancel of the Parish Church, Sandown, Isle of Wight.

Mr. Watts has completed a portrait of Dean Liddell, which is intended to be added to the fine collection in the hall of Christ Church, Oxford.

Sir David Wilkie's first picture, "Pittessie Fair," and which he sold for 26*l.*, is now in the National Gallery of Edinburgh.

M. Charles Cordier has completed the memorial of Christopher Columbus, which M. Escandon commissioned for Mexico. It will be exhibited for some time in Paris, in the Place du Carrousel.

Ewell Church, Dover, which has been restored from the designs of Mr. Talbot Bury, of Welbeck Street, London, was re-opened last week by the Bishop of Dover.

Faversham Parish Church, which has undergone a costly restoration under the direction of Sir Gilbert Scott, was re-opened on Thursday by the Archbishop of Canterbury.

Ninety-one applications were received for the appointment of Town Surveyor of Bridgwater; the salary is 200*l.* per annum.

At a Meeting of the Salisbury Diocesan Church Building Association, last week, numerous applications were made for church restoration, the proposals involving a contemplated outlay of about 9,000*l.*

A Music Hall on a large scale is to be erected in Grigg Street, Southsea.

The Portsmouth Sanitary Authority have applied to the Town Council for the appointment of a committee to consider the practicability of purchasing the Waterworks.

The Restoration of the parish church of Havant has been resumed, and it is expected that the works will be completed by Easter.

Workmen are now erecting scaffolding at the great window of the north transept of Gloucester Cathedral, prior to the placing therein of the memorial of Lady Caroline Susan Hicks-Beach. The present glass will not, however, be removed until the spring.

The last remaining arch of one of the bays of the ruined South Chapel and the old Chancel of All-Saints, Pontefract, fell on Sunday last, and destroyed some monuments.

Plans are in preparation for extensions and improvements at Sheffield in connection with the Manchester, Sheffield, and Lincolnshire Railway, which will involve an outlay of 400,000*l.*

The Society of Antiquaries commenced the meetings of the session on Thursday, when the Director communicated some notes on the Monumental brasses of the county of Bedford.

A Fine Arts Club, for the encouragement of local talent, has been organised at Ipswich, under the auspices of which an exhibition of works by Ipswich and Suffolk artists will shortly be held, and the proceeds of sales will be devoted to the East Suffolk Hospital.

The Fine Arts Exhibition in Calcutta contains over 100 paintings in oil, and nearly 200 in water colours. The Governor-General, in opening it, dwelt upon the advantage of instituting a National Gallery in Calcutta, and hoped that the Exhibition might be the beginning of something of the kind.

The Burlington Fine Arts Club have this week opened an exhibition of nearly two hundred proofs of etchings by Hollar.

An Art Exhibition is to be held in the Guild Hall of Winchester. It will be limited to works belonging to collections in Hampshire.

Murillo's Picture of St. Anthony, which was stolen from the Cathedral of Seville, has been recovered. It was offered for sale to a New York dealer by two Spaniards. The picture is now in possession of the Spanish Consul, but is considerably damaged.

The Metropolitan Board of Works have filed a Bill in the Court of Chancery against the Lord of the Manor of Hackney, praying that the defendant and his agents may be restrained from continuing the inclosures on Hackney Downs and Mill Hill Fields, from digging gravel, brick-earth, and clay, or doing anything else that may tend to injure the grass, herbage, shrubs, or surface of those open spaces.

The Metropolitan Asylums Board, by a majority of 28 to 4, resolved at their last meeting, "That, having regard to the letter from the Local Government Board, dated December 18, 1874, the Hampstead Committee be and are hereby now requested to proceed, under the reference to them of October 24 last, to obtain plans for the reconstruction of the buildings at Hampstead."

The Lambeth Board of Guardians have adopted the plans of Mr. F. H. Fowler for the new infirmary, which is to cost from 48,000*l.* to 50,000*l.* The plans have still to receive the approval of the Local Government Board.

The Iron and Steel exported from England during the past year amounted to 2,487,162 tons, of the value of 31,225,380*l.* The corresponding amounts for the year previous were 2,957,813 tons, and 37,731,290*l.*

Mr. and Mrs. German Reed's Entertainment.—The programme provided by Mr. and Mrs. German Reed since Christmas at St. George's Hall has proved very attractive, the "Three Tenants" and "Too Many by One" being received with very great applause. With a liberality of management which will be appreciated by their patrons, they intend to produce in a few days another new "First Part," from the pen of Mr. Gilbert A'Beckett, entitled the "Ancient Britons." The novelty is an imaginative sketch of the state of Great Britain some three thousand years hence, and abounds, it is said, in humorous hits at modern manners and customs. Mr. German Reed composes the music, and Mr. O'Connor paints the scene of the ruins of Westminster. "Too Many by One" will be withdrawn upon the production of the "Ancient Britons."

The New Russian Historical Museum is to be erected in the Square of the Resurrection, St. Petersburg. The conditions of the competition for the designs have been fixed, and the cost of the building is not to exceed a million roubles.

Forthcoming Contracts.

Tenders will be delivered on Monday next, Jan. 18, for a new speech room at Harrow School. Mr. Burges, architect.

Tenders are immediately required for further additions and alterations at the Willesden Junction Station for the London and North-Western Railway Company.

The Architect.

THE METROPOLITAN BOARD OF WORKS: GOVERNMENT BY RESENTMENT.



It is well known that there occasionally occur various little manifestations of prejudice and personal feeling by those who are in authority, which the public have to tolerate as best they can, as what is called "part of the price we pay for liberty." It is needless to remark that these annoying eccentricities are more common amongst the lower classes of officials; to err is human, and to err in a small way is the attribute of small people. The little local vestries of London parishes, for instance, no one will deny, err in many small ways; the Metropolitan Board of Works, as the great general vestry of London at

large, most people will think, may be permitted to err on the same principle, but ought to do so a little more magnanimously.

In a neighbouring country we have heard a good deal lately of a Government of Combat. It did not answer. In certain occurrences that have recently taken place at the Metropolitan Board of Works there has been exhibited a somewhat similar system of Government by Resentment. Let us say that this also will not answer.

The first of these incidents that we may mention is the discussion which arose at the weekly meeting of the Board on Friday the 16th instant, respecting the project of the Metropolitan Asylums Board for building a hospital on Hampstead Heath. One of the members, in addressing a few words to his colleagues on this question—the Board being the official custodians of the Heath—is reported to have said "as an individual member he regretted that this particular locality had been selected," but he deemed it best upon principle to avoid interfering with another representative body. Upon this another member, although speaking in support of the same policy, is said to have complained of the previous speaker for having taken the liberty of expressing his personal regrets at all; because, said he, as "they themselves would resent the interference of any other Board," so they must expect that any other Board would resent theirs.

Now if this be but an accidental phrase occurring in debate and committing the speaker to no point of doctrine, or the splenetic sentiment of a single member uttered without the concurrence of the body, it must be held to signify little or nothing; but if it is to be accepted by the public of the metropolis as the declaration of a specific policy, then it certainly implies a good deal. At any rate no contradiction of it, nor even a qualification of it, appears to have been offered by any succeeding speaker.

If we go back then to the meeting of the Board held in the week preceding, we find another incident appearing in the reports. There had occurred, a few days before, the decease of one of the district surveyors. The patronage of the appointment of these officers under the Metropolitan Building Act is a privilege vested in the Board of Works; which has also the power of altering the limits of districts whenever this may seem to be desirable. In other words, the Board has confided to it the important trust of electing the fittest men for the service of the public in the delicate duty of district-surveyorship; and coupled with this there is the further duty of introducing improvements, whenever opportunity may offer, in the notoriously irregular and inconvenient boundaries of the ancient districts, under which some of them yield a revenue of about 20*l.* a year and others 2,000*l.* The district of the deceased surveyor was well known to be a poor one. It was surrounded on all sides by others little better. Certain of the neighbouring surveyors, therefore, memorialised the Board upon the expediency of absorbing the vacant district in the augmentation of the circumjacent ones—a thing which we are told had been looked forward to for many years. We regret to say that these memorials were received with undisguised scorn and indignity. It was not alleged that they were in any way wanting in respect. Neither were the writers accused of even such a thing as unreasonableness in the suggestions they offered. The applications, apart altogether from their merits, were simply resented as an act of interference. "It was extremely improper," said one of the members, "for these officers to dictate to the Board what course to pursue; and he hoped their application would be treated in such a way as effectually to prevent a repetition of such conduct!" It must be acknowledged that the orator proceeded to support this sentiment by a reference to facts and figures; but, in accordance with the well-known rule that there is nothing so little to be relied upon as facts except figures, the statements of the worthy gentleman, as we are assured, were from beginning to end altogether fallacious; and the course eventually taken by the Board seems to have been in itself proof positive that the general opinion was influenced less by any arithmetical demonstration of this kind than by the far simpler appeal to the outraged dignity of the body. The applications were unanimously ordered, so say the reports, "to lie on the table." In

justice to the common sense of what we believe to be a large majority of the Board, we prefer to suppose that this affront was only voted *nemine contradicente*, no one thinking it worth while to take up the time of the meeting with a controversy on the primitive question whether a cat may look at a king—at the best a mere point of good breeding rather than business. At any rate the principle of Government by Resentment—which is all that we are really concerned to look at—was too clearly asserted to be misunderstood.

Upon still further inquiry, it appears that the application of this principle by the Metropolitan Board to the vestries and local boards has long been the subject of the most notorious complaint. As a rule, we are told, none of these can venture to send out a message from what it regards as the imperial chamber of its own parish to the Most High and Mighty Parliament at Spring Gardens, without a good deal more of fear and trembling than vestrymen are accustomed to. The question to be submitted is, perhaps, one of intense local or local and general interest. The great man of the parish, or the very Lord Mayor of the City, may occupy the chair and advocate the measure. The local representatives at the Board (for the Board is composed of delegates from these very bodies) may be sitting in the crowd as comparatively humble units. The expediency of communicating with the central Board may be too palpable for long debate and too urgent for very formal deliberation. The real desire may be nothing else than to strengthen the hands of the Board. But woe to the inferior corporation if the superior should think fit to ride its high horse! It is not enough that after due obeisances, credentials rigorously scrutinised, a precise object set forth in the published agenda, and a selection made of one or at most two of its members for the task of speech, the deputation is ceremoniously admitted to the presence, and its humble petition listened to with such measure of individual patience or impatience as may happen to be convenient at the moment. So keen is the appreciation said to be of "interference," so great the horror of "dictation," that after all the pains that may have been taken by experienced officials and diplomatic advisers, not only for the avoidance of the appearance of pressure, but for the express cultivation of a demeanour of profound humility, all that is required to upset the apple cart (if the not inappropriate vulgarity may be pardoned) is a single unlucky word of British independence from the chosen orator, a gleam of transient surprise on the face of a silent colleague, or an indiscreet compliment to local wisdom from one of the Conscript Fathers themselves! This is what Government by Resentment comes to. That it has its origin in the vestry halls and workhouse board-rooms of the parishes is no doubt true enough; that it is cultivated to the very utmost in those narrow forcing frames of local sound and fury signifying nothing is equally the fact; but the persons who have to do with the Metropolitan Board are at least, as a rule, of a different order from the supplicants at those inferior courts, and the greater state and more profound decorum of the nobler institution ought to be shown in more elaborate courtesy and more persevering forbearance.

The terrors that are inspired in the bosoms of the public at large by the high sense entertained of the self-importance of the Metropolitan Board of Works we need not dwell upon. Nor need we allude, except in passing, to the incredible self-reliance with which the Board went to Parliament last year for such autocratic personal powers over the house property of the London area as not even HAROUN-AL-RASCHID would have ventured to exercise in the Bagdad of romance. The conclusion accomplished by the Committee of the House of Commons was at least prompt and decisive. But it was at the same time arrived at with all that patience of inquiry, and expressed with all that polite consideration, which happily characterise many other bodies of higher importance than the Metropolitan Board. It is to be hoped the lesson may not be lost upon the Board. For it becomes a serious matter for the public to reflect upon, as now has to be done, that this apparently hasty and consequential tribunal is actually at the present moment handling the patronage of an annual income of nearly half a million in London taxes. In any case it might be expected that the wisdom of some of the members ought to be somewhat superior to what it appears to be; but if this vast revenue is to be administered upon the more than irresponsible principle of Government by Resentment—if, in the language that we have quoted, the Board is to "resent the interference" of every other general body which has an opinion to express, it behoves the ratepayers to inquire whether or no such a system is constitutional—whether in fact it is not essential to the very idea of municipal authority that the individuals who are temporarily elected to office shall somewhat less imperiously regard their functions, as the exercise, not of a personal privilege, but of a public trust, in which discourteous self-importance ought to be as strictly discountenanced as that more direct but not more dangerous species of breach of faith—to which indeed it expressly leads—that self-interested exercise of patronage to which Earl GREY recently referred so pointedly as the bane of our whole system of local municipal government. The Metropolitan Board of Works may yet have a long career before it, or possibly only a short one; but in either case it will do well to take a little pains to show the public that the majority of its members are so far at least possessed by a proper sense of their true functions as to disclaim both in word and deed a principle so undignified and so unworthy as the petulant resentment of honest counsel because of its coming from without its own contracted walls.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

BY EDWARD W. GODWIN, F.S.A.

Henry VI.—Part I.

THE story of the reign of Henry VI. commences on September 1, 1422, and ends with his death May 1471. The true succession of the events recorded in the play may be thus briefly stated.

HENRY VI. succeeded his father September 1, 1422, being scarcely nine months old. He was given to the care of the Earl of WARWICK (the most courteous of knights). England was placed under the Duke of GLOUCESTER, and France under the Duke of BEDFORD. In 1425 the Duke of GLOUCESTER and his uncle of WINCHESTER quarrelled for the government of England, but the Duke of BEDFORD interposed, and GLOUCESTER continued in office. October 12, 1428, the Earl of SALISBURY began the siege of Orleans; he was wounded on October 27, and died November 8. WILLIAM DE LA POLE, Earl of SUFFOLK, succeeded to the command, and continued the siege until the following spring, when it was raised by JOAN OF ARC, who entered Orleans April 29. The French having recovered their spirits, attacked the English on all quarters. The Earl of SUFFOLK was taken prisoner at Jargeaux June 12, and six days after Lord TALBOT suffered the same fate at Paray, but was soon freed by exchange. Now the sequence of events in the play is so remarkably at variance with all this, that before we go on to the second act of the drama it may perhaps be as well to clear the ground by a brief summary of the dramatists' record. 1422. "The dauphin CHARLES is crowned King in Rheims." TALBOT is taken prisoner on August 10, or three weeks before the play opens. We are next introduced to Orleans, where we find it repeated that—

Talbot is taken whom we wont to fear:
Remaineth none but mad-brain'd Salisbury;

The mad-brained lord beats the French, and JOAN OF ARC comes on the stage. The next scene shows us the quarrel between GLOUCESTER and WINCHESTER before the walls of the Tower of London, and then again we are back to the siege of Orleans where we find TALBOT free, see the death of SALISBURY and the entry into Orleans of JOAN OF ARC as a finish to the Act. This is very different from the dramatic history of Henry V., where the accuracy of SHAKESPEARE is noteworthy, and the sequence of events complete. Indeed, so utterly inconsistent is the arrangement as we at present see it in all editions that one is almost induced to think that the scenes have been shifted, and some might even venture to question the authorship.

To return to contemporary history we have the record of events continued as follows:—

- 1430. May 26. JOAN OF ARC taken prisoner at Compeigne. Surrendered by the Burgundians to the Duke of BEDFORD.
- 1431. " 30. JOAN OF ARC burnt alive at Rouen (ætat. 21) in accordance with the judgment of a court of which the Bishop of BEAUVAIS was chief. HENRY VI. crowned in Paris December 17.
- 1435. Sep. 14. The Duke of BEDFORD died at Rouen (P Paris).
- 1436. The Duke of GLOUCESTER and the Bishop of WINCHESTER quarrelled.
- 1437. RICHARD BEAUCHAMP, Earl of WARWICK, appointed Regent in France *vice* the Duke of YORK.
- 1440. YORK regained the Regency. The Duchess of GLOUCESTER tried in St. Stephen's chapel charged as a witch and a traitress.
- 1443. GLOUCESTER accused the Bishop of WINCHESTER of treason, but the latter gained the day.
- 1444. May 28. Truce with France which lasted till April 1450.

The first part of Henry VI. extends, therefore, from the autumn of 1422 to the spring of 1444, and the second part opens in the spring of 1445, with the introduction of the Princess MARGARET to the Lords of the Council.

Now the poet arranges the events in such a totally different fashion to that just recited, that it is almost impossible to effect even the shadow of a reconciliation. In the twenty-two years (1422-1444) of the first part of the reign, he shows us in the following order:—

1. CHARLES VII., crowned in Rheims (1429, July 18).
2. TALBOT taken prisoner (1429, June 18).
3. Siege of Orleans (1428, October 12).
4. First outbreak between GLOUCESTER and WINCHESTER (1425).
5. The death of SALISBURY at Orleans (1428, November 8).
6. The death of MORTIMERE in the Tower of London (1424).
7. Parliament, and second quarrel of GLOUCESTER and WINCHESTER (1443).
8. The taking of Rouen by JOAN OF ARC, and death of BEDFORD (1435, September).
9. HENRY VI. in Paris (1431, December).
10. The siege of Bordeaux, war in Gascony, and death of TALBOT (1453, July 23).
11. WINCHESTER created Cardinal (1425).
12. JOAN OF ARC taken prisoner (1430, May 26).
13. The Truce (1444).

As the events themselves are all to be found in contemporary records, with the exception of the taking of Rouen by the Maid of ORLEANS, it seems to me remarkable that they should have got into such a muddle as to sequence. To show the extent of this disturbance, I give here in two rows: A, the arrangement of the play, and B, the historical arrangement—

A.	1	2	3	4	5	6	7	8	9	10	11	12	13
B.	7	6	4	2	5	1	11	10	9	13	8	8	12

The most singular figure in this strange medley of dates is that presented by the Bishop of WINCHESTER, in Act V. Scene 1. The stage direction is—"Enter a legate and two ambassadors, with WINCHESTER in a cardinal's habit," on which Exeter immediately exclaims—

What! is my Lord of Winchester install'd
And called unto a cardinal's degree?
Then, I perceive that will be verified,
Henry the fifth did sometimes prophesy—
"If once he come to be a cardinal,
He'll make his cap co-equal with the crown."

Now let us turn back to the third scene of Act I., and hear what the Duke of GLOUCESTER says to my Lord of WINCHESTER.

I'll canvas thee in thy broad cardinal's hat,
If thou proceed in this thy insolence.

Again,

Under my feet I stamp thy cardinal's hat;
In spite of Pope or dignities of church,

and then his last words to him—

Cardinal, I'll be no breaker of the law;
But we shall meet and break our minds at large.

Considering the number of years which must have elapsed between these Tower Hill speeches of GLOUCESTER during the baby days of the KING, and the scene in the fifth Act, where the KING receives the Ambassadors of France,

— resolved

To draw conditions of a friendly peace;

EXETER's surprise strikes us as coming a trifle late, or nearly twenty years after BEAUFORT had entered the sacred college. This is no mere anachronism! nor can it be put down to ignorance on the part of EXETER, who has not been by any means a recluse; neither is it an archaeological or historical question; the text of Act I., judged by the text of the others, is all sufficient, quite apart from the literary quality of it, to show the looseness of the composition.

When we come to examine the architectural scenes, we get further evidence of looseness of construction. We begin in Westminster Abbey; then we are taken to the siege of Orleans, back to London, and back again to the siege of Orleans, all in one Act. The other Acts have not this defect, and could easily be so arranged as to come within the rules which are beginning to be recognised as such in all good stage management. Of the scenes which come within my province the following is an abstract:—

- | | |
|---------------|-------------------------------|
| London | 1. Westminster Abbey. |
| | 2. " Parliament House. |
| | 3. " Room in palace (2). |
| | 4. Tower Hill. |
| | 5. Room in Tower. |
| | 6. Temple Gardens. |
| Orleans | 7. Before the town. |
| (Five scenes) | 8. Before one of the gates. |
| | 9. Within the town. |
| Auvergne | 10. Court of castle. |
| Rouen | 11. Outside the walls. |
| | 12. The plains near the city. |
| Paris | 13. A room in the palace. |
| | 14. A room of state. |
| Bordeaux | 15. Before the walls. |
| Angiers | 16. Before the walls. |

1. There is only one remark to make about this scene, and it is this—that there is no necessity for the audience to see a cardboard model of the *whole* interior of the Abbey put on the stage. At Drury Lane and other large theatres, peep-show architecture or the architecture of vistas may still, I hope, be encouraged for many years to come, if only as a contrast to, and as a means of measuring the progress made by, more thoughtful management. There can be no doubt of this as a fundamental rule of scenic art, that wherever possible the *scale of the mimic scene should be equal to that of the real one*. Thus in this scene of Westminster Abbey I venture to say that far greater effect in every way would be produced on a tiny stage by measuring off the real, or nearly the real, dimensions of a portion of the crossing, and setting it diagonally, than could be produced by any attempt to represent the whole, even though on the largest stage in Europe. As to the bier, it may here be noted that a black pall over it would be altogether out of tune with the time. The drapery placed over the coffin in those days was rich both in colour and material. Cloth of gold, with elaborate embroidery and numerous escutcheons glowing with heraldic blazonry, would be the sort of drapery that would have been placed over dead HENRY's corse. Other details there were, such as a cross extending to the limits of

the coffin, and sometimes one on each side; but the main point to remember is that the outward forms and habits of grief in 1422 were by no means what they were, and still too often are, with us.

2. "The Parliament house" intended by SHAKSPEARE was one of the chambers at Westminster, but the Parliament at which the scene between GLOUCESTER and WINCHESTER was enacted was really held at Leicester. I should, therefore, be inclined to adopt an interior that might be equally appropriate to both places, using tapestry abundantly.

3. Room in the palace (Act v., Sc. 1 and 5). This should be a hall or council room of sumptuous character, with a throne, and a dais or tester over it. And here I may add that because a room belongs to a mediæval king it is not absolutely necessary to leave it totally unfurnished. Besides the royal chair or throne there would be stools, tables, lecterns, chests, long forms with backs to them like settles, cabinets, or armoires, besides rich hangings and cushions, and before the throne at least some rich carpet stuff. For these three scenes such architecture as would be visible above the hangings need not be different from that which prevailed during the three preceding reigns.

4. There is no difficulty with the "hill before the Tower." The wall, the Tower gates, the great Norman keep, are all so easily got at that the youngest scene-painter need not go wrong.

5. Nor is the room in the tower more difficult to manage. A plain vaulted or heavy timbered ceiling, plain walls, a narrow window, and a narrow door are all we want. Nor do we much care whether the architecture be Norman, Early English, Decorated, or Perpendicular—although, perhaps, it may be as well not to go further back than the reign of HENRY III., for MORTIMER died of the plague at the castle of Trim in 1424, and that castle was built 1220-1224.

6. The Temple Gardens Scene might be made extremely lovely. On the back cloth might be represented the Temple buildings, or the river and its opposite shore, the stage itself being occupied by a raised terrace, over which might be seen the flowers and fruit trees of a fifteenth century garden, and although not common in this country, a fountain may be admitted, for which the *Roman de la Rose* will furnish some charming examples. (See MS. in British Museum.)

We have now to bid farewell to England, and make ourselves acquainted with no less than five French cities and one château. Pre-eminent amongst all these is the city of Orleans.

7 to 9. The town stands on the right bank of the Loire, and at the time of the siege communicated with the opposite bank by a bridge, more than 1,000 feet long, that started from the principal gate of Orleans, close by the side of which stood the châtelet—a little castle—which was nearly always to be found at the head of a mediæval bridge. Now, besides the town gate and the châtelet, the bridge possessed certain fortifications, entirely its own. The first going from the town was on an island in mid-stream, and was called "la bastille Saint-Antoine." Outside this fortified gateway on the east or upper side was a chapel, and on the other side an hospital or almonry,

In which seven beds-men, that had vowed all
Their life to service of high heaven's King,
Did spend their daies in doing godly thing:
Their gates to all were open evermore,
That by the wearie way were travelling;
And one sate waiting over them before,
To call in comers-by, that needy were and pore.

At the far end of the bridge was an extensive gatehouse, flanked by towers and otherwise fortified, having quite the appearance of a small castle, and, indeed, known as "le châtelet des Tournelles." Beyond its drawbridge was a low outwork, square in plan, and of some extent with a moat and a drawbridge on the upper or eastern side. Outside this was a suburb of poor houses and a priory of Augustin friars which were destroyed with the other suburbs by the townspeople on the approach of the English forces under Lord SALISBURY. Now it is to this *châtelet des Tournelles* that the attention of the scenic artist should be mainly directed. In the second scene of the first act it would be sufficient to show the river and a distant view of the town. But in the fourth scene the "tower" where SALISBURY was shot was also the "gate" of the fifth scene, and although "the gates" of the first scene of the second act must have been on the other side of Orleans, the story is not told with such an amount of historical accuracy as to make such a change imperative on the stage. The difficulty of the double scene (Act i. Sc. 4), is one of Shakspeare's trifles, for it is only the difficulty of bringing together two towers and two sets of people that were really not less than seventeen hundred feet asunder! Of the architecture of the town of Orleans, the gates, bridge, walls, and châtelet, we have evidence almost sufficient in M. VIOLLET-LE-DUC's *Dictionnaire de l'Architecture*, and if further details are required, M. JOLLOIS supplies them in his *Histoire du Siege d'Orleans*.

10. The Court of the Château at Auvergne would show us the gatehouse and the crenellated walls each side of it. If the former had its upper storey open to the courtyard, and the approach or steps to the wall were well managed, a most picturesque scene could easily be secured for the fine dramatic situation in this Auvergne episode. It is true the Countess and her porter have nothing whatever to do with the history or the play, and a manager who was rash enough to attempt to put Henry VI. on the stage might, I think, fairly be excused were he to eliminate such a scene as this; the death of

MORTIMER (Act ii. Sc. 5); the master gunner and his son (Act i. Sc. 4), and the two Rouen scenes (Act iii.).

11. Before Rouen. The city gates, the circular flanking towers, the high conical roofs, and the old crenellated walls are all there, but somehow they are not quite the same as they were in old times. We miss the hounds and many a picturesque roof of shingle and tile. There is something strange, too, about the battlements; some have been blocked up, others have been altered, and there is a dull flat monotonous look about the top of the walls not quite pleasant, all which means nothing more than the introduction of what SPENSER describes as—

that diuellish yron Engin wrought
In deepest Hell, and fram'd by Furies skill.

12. A distant view of the city of Rouen as it appeared in the first half of the fifteenth century is easy enough to anyone who will take a little trouble in the matter. I may, however, say that the city was more than usually rich in churches and towers—ecclesiastical, military, and domestic.

13. A room in the palace means, at the time of the play, a room in the Louvre, so, too (14) the room of state where our HENRY was crowned was that charming hall already mentioned in my remarks on Henry V. It is important to note that in 1431 other changes besides those in the art of war had taken place. Architecture, with her sister and accessory arts, had passed into a new phase, and classical forms were being revived with a rapidity so great that they soon completely dominated the country of their new birth. The fifteenth century in Italy thus became known as the century of the Renaissance; and though I do not for a moment wish to suggest that any material change in the architecture of Paris occurred so soon as the time under our immediate consideration, yet I think the influence of the great change that had been started south of the Alps might well be visible in such things as the mantelpiece, the andirons, or the furniture. It is by a little touch here and there of this kind that we may so easily and naturally mark the progress or growth of the mimic life or stage history.

15 and 16. Before the walls of Bordeaux and Angiers. The latter presents little or no difficulty, but Bordeaux must be mostly conjectural. There need, however, be no great uncertainty about any town walls at this time, for they would of necessity be fortified in much the same manner as that already described.

(To be continued.)

EXHIBITION OF OLD MASTERS.—III.

IN the absence of any remarkable examples of the Dutch or Flemish schools, the honour of representing landscape has fallen chiefly upon the English painters of the last and present century. A fine broad *Landscape, with Figures Dancing* (106), by RUBENS; a luminous and poetic Claude (96), and a stormy drama of sky, rock, and tree, by SALVATOR ROSA (131), both lent by the Earl of YARBOROUGH; the famous *Skutters of CUYE*, from the same gallery (145); a charming little *Woodland Landscape, with Peasants*, by HOBBERMA (18); two effective studies of *The Falls of Tivoli* (191, 195), by GASPARD POUSSIN, from the Miles collection; a few unimportant examples of RUYSDAEL and the sea-painters VANDEVELDE and BACKHUYZEN; these, together with the usual sprinkling of Venetian views by CANALETTO and GUARDI, pretty much make up the sum of pictures in this *genre* as regards "Old Masters."

But coming to the moderns we have a famous group in TURNER, CROME, COTMAN, CONSTABLE, CALLCOTT, BONINGTON, and WILLIAM MÜLLER. The two large TURNERS in Gallery III. were both purchased by the late Earl of YARBOROUGH, grandfather of the present Earl. The *Vintage at Macon* was the first-fruit of the artist's travels abroad; was painted at the commencement with sized colours on unprimed cloth, the tone consequently has become deep and heavy, though the colours were, when fresh, comparatively brilliant. Carefully balanced composition, studied detail of perspective distances, solid, even laboured, execution, mark the picture as belonging to the first period of TURNER's artistic development; at this time he was studying the old masters, and followed the sombre tones and steady-going execution of the Dutch school, though the irrepressible fire of his genius shone through the drudgery. From the Macon picture to the *Childe Harold* was a leap onward from the literal to the ideal. The *Wreck of the Minotaur* dates nine years later, in 1810. "No ship or boat could live in such a sea" was the unconscious tribute to the truth of the painter of a certain admiral on seeing the picture. All the hopelessness, the face to face struggle with death, which recent disasters at sea have brought home to us, rise to mind as we look at this noble work. The great ship lurches over and goes down amid the waves, that seem like fiends to spring and roar in exultation over their prey; sky and water meet in a mist of foam; boats and rafts filled with terror-stricken beings rise and sink in the seething water, and threaten to be whelmed by the falling ship. In colour the picture is somewhat cold and opaque, but evenly harmonious. Mr. WELLS' fine *Sunset at the Mouth of the Thames* belongs to the same period; but there is here greater presage of the master's future magic of aerial perspective in the sky. Opinion is divided over the beautiful composition of *Crichton Castle*, exhibited by Mr. WOOLNER; there is

something unlike TURNER's method in the making out of the foreground herbage and in the treatment of near foliage, but it is in the manner of his contemporaries GIRTIN and CROME, and the tender and suggestive management of distance is Turneresque enough; at any rate it would be difficult to assign another painter for this fine work. The only specimen of the later manner (261) has been judiciously hung in the vestibule. The pedigree of this picture we do not know; the subject was once or twice painted by TURNER.

The founder of the Norwich School, OLD CROME, as he is called, to distinguish him from his son, comes out bravely in seven works of very various merit; one indeed of the number (215) is not by CROME at all, but by a French artist of the name of MICHEL. The best example is the large study of an *Oak at Poringland*; this is thoroughly characteristic with its full impasto that has cracked all over the rich brown and green surface till it looks like tortoiseshell, its wonderful breadth and yet careful indication of detail, even into the farthest distance, and the fine treatment of light, to pronounce which some natural qualities of the gnarled oak trunk have been missed; the branching is splendid. CROME was great in oaks: Mr. FULLER MAITLAND sends a fine group (41), in which the passage of blue hills seen between the far stems is almost Titianesque in power. The *Old Inn at Farnmouth* is a capital study, full of what the French call tonality, luminous as a Venetian canvas. CROME did not work direct from nature, but from sketches; he was rapid, and painted very much at once, a reason why his pictures have no sign of drudgery about them. His subjects, almost entirely gathered from his native country, were simple enough; the artist knew how, by skilful use of accidental light and significant treatment of masses, to make a picture out of the scantiest materials. The method of COTMAN, friend of CROME, and his junior only by thirteen years, was not dissimilar, only he sought effect by a more dramatic contrast of light and shadow, and his sweeping brush had less crisp solidity. He was pre-eminent in a certain simple blocking-out of the masses, and had a happy knack in the disposition of figures. As a draughtsman he had more *finesse* than CROME, partly arising from his practice as an illustrator of architectural subjects. The oil pictures, seven in number, contributed to this exhibition, attract special notice from connoisseurs unacquainted with COTMAN, or familiar only with his water-colour drawings. The *Cave of Boscazle*, lent by Mr. WOOLMER, has unusual impetuosity and dramatic effect; the red sun sinks beneath heavy clouds beyond the great rolling sweeps of green wave with the portentous grandeur of one of MARTIN's or DANBY's visions; but COTMAN had studied with TURNER in London in his early days, and was always under his influence. Both CROME and COTMAN suffered in their art from the necessity of living from hand to mouth more or less, and from the depressing drudgery of teaching: routine and slight work necessarily follow under such influences.

JOHN CONSTABLE has been extolled as the first of our landscape painters who freed himself from the fetters of the "brown tree" school. He caught the bright colours of pastoral English scenery, and abhorred the dark palettes and false varnishes of the Dutchmen. There is nothing of mark from his hand this year, except what may be considered a curiosity—a little study of *A Child*, broad and sweet, not unlike a ROMNEY.

AUGUSTUS CALLOTT, the successful contemporary of poor CONSTABLE, who said of himself that he should never in his own lifetime be popular, is one of the especially illustrated painters of the exhibition. Thirteen of his meritorious and placidly prosaic performances are on view. He began as a portrait painter under the tuition of HOPKNER, but soon took to landscape, and gave great promise in vigorous manly work. He produced too much, however, and having the sense to feel he did not make progress, pulled himself up, and used, after the year 1812 up to 1828, only to send one large picture to the annual Royal Academy Exhibitions. After he returned from Italy, however, his popularity only increased with the demands he made upon it, and amid the pleasant but vitiating atmosphere of fashionable favour he painted, one might say, by the yard. He took to historic painting within four years of his death, and in 1840 exhibited a great elaborate work of *Milton Dictating to his Daughters*. All that good draughtsmanship, a quiet appreciation of the simple aspects of nature, and ambition which ranked rule and technic above nature or imagination, and sunk intelligent detail in the smooth covering of large spaces, could accomplish, was achieved by Sir AUGUSTUS CALLOTT, and the works now at Burlington House certainly justify a limited admiration for so respectable, sound, and pleasant a mediocrity.

The name of BONINGTON stands, as we have said, in the catalogue, but the one charming specimen, *Palace of Prince Majefi, Verona*, is too insufficient to justify our dwelling on this rare and genial painter. If an exhibition of his works could be got together by the Burlington Fine Arts Club or other private body of connoisseurs, it would be a great boon to the art world. WILLIAM MÜLLER, the Bristol artist, is really best represented by a picture that the hangers have placed in a corner of the second room, above the line, *The Good Samaritan*, which, in its bold contrasts, surprise of light, and broad dark rich harmonies, is better and more characteristic than the more elaborate *Whitchurch* (205), or the meretricious imitation of TURNER (254) in the vestibule.

A miscellaneous group of figure subjects will lead us to MACLISE. The ideal epic style, of which MARTIN and DANBY may be said to have been the beginning and end here in England, finds a representative in

DANBY's *Pharaoh and his Host overthrown in the Red Sea*. The poetic, even sublime conception of this picture tells with finer effect in the well-known mezzotint, for the colour is heavy and, except in the sky, flat. An artist too little known to fame is DAVID SCOTT, a man of original thought and large manner. The technical shortcomings which hindered the full expression of his genius may be seen in *The Duke of Gloucester entering Calais Gate*, while the picture, at the same time, well exemplifies his power of dramatic suggestiveness. This Duke of GLOUCESTER, brother of JOHN OF GAUNT, was arrested by order of RICHARD II., and secretly conveyed to the prison of Calais, where he disappeared for ever. The artist represents the doomed man seated in a boat, entering the water-gate of Calais under guard of soldiers, whose fantastic helmets and stooping figures bar with strange lines the moonlit space of sea and sky behind. The Duke, with his pale face and anxious eyes and his motionless figure, seems already a spirit passing into the shades. The half-seen body of a man pushing the bar of the gate, and the contorted form of the rower, add a weird savageness to the group: the picture is full of portent. The absence of detail, the almost blurred indefiniteness of outline, and the extreme simplicity of the chiaroscuro, are not the result of carelessness or incapacity so much as of deliberate principle. DAVID SCOTT held theories about the necessity of impressing the mental conception of a subject, at the sacrifice, if necessary, of texture, finish, and detail. As his thoughts were above the general level and touched with a certain mysticism, and his colour never was alluring, it is no wonder that he did not achieve the easy crown of popularity. Close by this interesting picture hangs one equally interesting in its way, the "unfinished" canvas of *John Knox dispensing the Sacrament*, by Sir DAVID WILKIE. Several of the heads are quite finished, while the rest of the picture is merely in outline, perhaps the key to WILKIE's method of work. WILKIE painted the head of KNOX, in his great picture of the reformer preaching, from EDWARD IRVING, who sat to him for the purpose, and whose action, when delivering his impassioned discourses, WILKIE used to study. This composition was commenced before the artist's journey to the East in 1840, from which he never returned.

Fifteen pictures, including the immense canvas of *Strongbow's Marriage*, represent the genius of DANIEL MACLISE. In the *Puck Disenchanting Bottom*, the *Veiled Prophet*, and *Captain Rock*, we have the sins and extravagances of his youth; in the *Banquet Scene from Macbeth*, his diploma picture, *Caxton's Printing Office*, and *Strongbow*, his prime of power; and in the *Sleep of Duncan* and *Madeleine*, the stereotyped mannerism of later years. That MACLISE was in many senses a great artist, a gathering of his works like the present goes far to re-establish. We have seldom if ever had such a draughtsman in the British school; his inventiveness was extraordinary, his knowledge of composition remarkable. An overstrained exaggeration of action, vulgar types, especially of women, absence of chiaroscuro, and a colour which never was really good, and most frequently was crude and discordant—these are faults which overclouded the high qualities of an artist who, in his excellencies, has not yet found a successor. The art of MACLISE was monumental, compared to most of the abortive attempts at a large decorative style of our rising men; yet he exemplifies only too well how near a man may be to the position of a great artist, and yet fail.

ANCIENT TAPESTRY.

THE Brussels correspondent of the *Standard* writes:—A sale of some exceedingly rare and valuable old tapestry is advertised to take place at Antwerp on the 18th inst., which is exciting considerable interest amongst the connoisseurs and lovers of works of art, especially as it formerly belonged to one of the merchant princes of Antwerp. It consists of five tableaux, representing the principal episodes in the life of Achilles, and belonged to the ancient house of Vanasteren and Dubois, of Antwerp. It is anterior to the Gobelin tapestry, and the Flamands claim to be the original designers of tapestry long before it was known to the French. The subjects represented are—first, Thetis plunging the son of Peleus into the river Styx, with Charon's barque laden with visitors "aux enfers," and the trusty dog Cerberus in the distance. The second tableau is representative of the education of Achilles "swift of foot." The third tableau has reference to the wrath of "Peleus's godlike son," when confronted by "the mighty Agamemnon, king of men," seated on his throne, with anger depicted on his countenance, and "his dark soul filled with fury," and sternly replying to the priest's request to have his fair-haired daughter Chryseis delivered up to him. The venerable Nestor is seen in the distance, also Achilles on the point of drawing his sword, with Minerva descending from above, and "passing her hand through his yellow hair she held the son of Peleus visible to him alone." This as a work of art is the finest of the lot, and strongly reminds one of the school of Rubens. The fourth tableau represents the restoration of Chryseis to her father by Agamemnon. The fifth and last scene represents the death of Achilles. When kneeling before the altar of Apollo he is treacherously shot in the heel by Paris. The foregoing tapestry is considered by amateurs to be worthy of any royal or princely residence, and it is expected that there will be a very great competition for it, and that it will realise a large amount.

THE FUTURE STATELY HOMES OF ENGLAND.

EVERYONE is likely to admit that associated dwellings have many advantages. Whether they exist as hotels, boarding-houses, chambers, or houses in flats, they have each their conveniences. The workmen's dwellings which have been erected in London and elsewhere are in every way successful. The objections which were felt towards them at first by the people for whom the buildings were intended have been so generally overcome that it seldom happens that there is a vacant tenement in any of the blocks, and, when well managed, the speculation can be made to produce a fairly good dividend. There can be no doubt that this class of houses satisfied a want, and the authorities throughout the country would do well to have them erected in all large towns. Although there are not the same public means of ascertaining the fact, yet it is generally supposed that buildings like the "mansions" in South Belgravia, in which a somewhat similar principle of construction was adopted to meet the needs of people of a different class, have been in their way no less fortunate. But, in spite of financial success, the principle of associated dwellings as substitutes for ordinary houses is very far, as yet, from receiving general recognition in England. What has been done can hardly be said to be the work of individuals. Very few architects have had opportunities of planning houses in flats. Persons who are in the habit of erecting buildings as an investment, and even the speculative builders, have kept aloof from them. The buildings hitherto erected are for people who, in different directions, are approaching the extremes of the social scale; but for the many intermediate grades of the middle classes of the population no provision of this kind has been prepared. Take, for instance, tenants who cannot afford to pay a rental of more than 40*l.* or 50*l.* a year; they are not always sure of finding commodious houses in the metropolis, but with the exception of a range or two on a limited scale in the neighbourhood of Stoke Newington, there are no associated houses with chambers or divisions of this value. The impediments to the erection of this class of dwellings arise, we think, from social considerations mainly, as they are hardly in unison with the spirit of the people. The worth of the old principle on which English houses have been built from time immemorial is recognised as fully as ever by the great body of the public; and if a vote could be taken, it is not improbable that a majority of the inhabitants of the "mansions" in Victoria Street as well as of the Improved Dwellings or the Peabody buildings would be found to be in favour of independent buildings with all their drawbacks.

How long this may continue is another question. Hitherto the necessity for associated dwellings has been supposed to rest as much upon the difficulty of obtaining sites in crowded places for separate houses as upon any other grounds. Nothing is ever said about social advantages arising from the adoption of this class of dwelling, and it has been usually the aim in planning the chambers to arrange them so that the tenants may have as little in common as is practicable. But we see the old order of things is changing around us, and who knows but that with an altered condition of social life there may be required a different system of house-building, and that even buildings consisting of a series of flats will not meet the wants of coming times? So, at least, believes a writer in the last number of the *Westminster Review*, who has described a dwelling-house of the kind which will be found a quarter of a century hence, in such fine language that it is to be hoped, for the sake of the present generation, buildings of the kind may be realised many years sooner. The *Westminster* has been famous from the days of Bentham and James Mill for its advocacy of new ideas, but in the present case it must be said that the Editor does not take the responsibility of the article to which we refer. It is printed in the "independent section," set apart for able articles which may contain opinions at variance with those usually expressed in the *Review*. With the whole of the contents of the article we need not trouble ourselves, but we may glance at those parts which are likely to be most interesting.

In order to show the disadvantages of ordinary houses to meet modern requirements, the writer begins by noticing the change from the home-keeping habits of our ancestors. At one time, he says, travelling with the leisured classes was an event occurring so rarely that there was no need to modify in consequence the permanent household arrangements. But now nearly every one travels from home for greater or less time, while most of our wealthy countrymen absent themselves from their country houses more than half the year round, spending the time in town, on the moors, and in travel. This brings to householders trouble in many ways, such as taking precautions against what might occur during their absence, in arranging with servants, and so on, trouble which arises from the discrepancy between wandering families and fixed abodes. But this, after all, he says, is but one manifestation of the general evil of setting apart immense masses of material for very occasional and slight use compared with their full power of affording pleasure:—

"Private houses," he says, "contain always hall, morning-room, dining-room, and drawing-room, usually library, frequently billiard-room, and occasionally ball-room, banquet-hall, chapel, or picture gallery, most of which are entered at considerable intervals only, and none, with the exception of morning, dining, and drawing rooms, even in daily use. When we consider the total number of such rooms in this country, the area covered by them in the streets of London and other large towns, the cost of building them and keeping them in repair, the expense of furnishing them, the staffs of servants required to keep them in order, and compare all this with the pleasure derived from their possession, the disproportion appears somewhat stupendous. The present market value of these commodities is incalculable; a reliable estimate would be an interesting contribution to the science of domestic economy; meantime, we are safe in setting it down roughly in hundreds of millions sterling."

In a large mansion these "enormous accumulations" entail a variety of expenses, and the writer then discusses the familiar subject of the inconveniences apart from the expense which follow from their employment, while the master and mistress of the house are never relieved from responsibility.

He then passes to the æsthetic standpoint:—

"Who that has travelled direct from Paris to London has not been struck with the heavy, squat appearance of the houses in our streets? Let alone the fact that, owing to the costliness of the interior, the exterior is usually left to take care of itself, or to veil itself beneath a coating of grimy plaster, the additional remark occurs to us, that, in the majority of cases, the proportion between the price of the land and the effectual demand for certain household requirements is just that which results in the most ungainly and misshapen buildings conceivable. Too high for their breadth, taken singly, and too low taking the whole row into view; too like the adjoining houses for a sharp and happy contrast, and too unlike for uniformity; the residence-streets have long ago been eclipsed as objects of beauty by the warehouse-streets of the East-end. To talk of erecting a series of detached houses in the neighbourhood of St. James's would, of course, be taken as a capital joke, and to build a row in really good proportion, street included, would be the act of a man anxious to waste half a million. In Paris, no doubt, the system of flats, whether as cause or effect, has been accompanied by an immense and (to the artist) desirable rise in the height of houses, and something of the sort has been the case in Belgravia; but as a rule the English upper classes set their faces against the system; and, since the prejudices of the rich are invariably handed down with interest to the poor, the same separation gives rise to the hideous and squalid brick-rows which to the tasteful are the ugliest blot on the face of this fair country. On the Leeds entrance to Harrogate a plain row of such cottages is to be seen, originally built on the grass, each two-eyed habitation staring at its own privy, about six paces to the front. Will any one deny that the money expended in the erection of this loathsome row of outhouses would have sufficed to build and furnish a commodious and picturesque lavatory, common to all, and *clean*? Without going further, it is plain that good architecture is in most places incompatible with separate family domiciles, except in the comparatively rare cases in which men of combined wealth and taste amuse themselves by erecting fine residences for themselves and their posterity, commonly in some extensive park in the country."

Having enumerated some of the other inconveniences of English homes as at present constituted, the writer turns to the future and prescribes the conditions which the model English dwelling of the leisured class must possess. According to him:—

- 1st.—It must allow of greater mobility of individuals in these days.
- 2nd.—It must economise the material consumed in ministering to the social side of home life.
- 3rd.—It must economise the labour spent on domestic requirements.
- 4th.—It must admit of the regulation of that labour by voluntary and definite contracts.
- 5th.—It must afford that leisure to the leisured classes which their class-name connotes, but which is at present seldom realised.
- 6th.—It must spread risk, loss, and trouble over the largest surface, and thereby diminish indefinitely the pain of their incidence.
- 7th.—It must bring homes under the influence of architectural taste.
- 8th.—It must lessen the wasteful disproportion now subsisting between parks, &c., and the number of persons permitted to enjoy them, without curtailing their æsthetic benefits.
- 9th.—It must mitigate the proverbial dullness of provincial homes, by casting the lot of individuals more uninterruptedly in society, and so dispense with modern spasmodic effort.
- 10th.—It must intensify the real, essential pleasure and advantage of home by rendering its privacy absolute and unbroken."

What existing type of dwelling will contain these essentials? The hotel is mobile enough, but you are made miserable by jostling with strangers, by the impertinence and unconcern of servants, over whom you have no control, by the absence of apartments, furniture, or fittings you may feel are your own. There is no guarantee in a house of flats of equal status among the several inmates, "and, as a rule, these shrink past one another with a cold shudder when they accidentally meet on the dreary staircases." Club chambers, boarding-houses, lodging-houses will not serve. What the writer desiderates is something very different, and he describes his ideal house in a letter which is supposed to be written by a gentleman who goes there in June 1900. This house is supposed to contain thirty suites of private apartments for the leisured class. It stands in a park of great extent, where on entering there is nothing to be seen but short, soft turf, grand old timber, trooping deer, shaggy oxen; nothing to be heard but the song of the thrush and the blackbird and the far-off scream of the peacock. As a rule, in the present day, it is easier to erect fine houses than to obtain parks to surround them, and this opening scene may appear a little imaginative, but something may occur before 1900 to alter the case, for the writer accords his sympathy with those patriots who are full of wrath at "the sight of so many broad acres shut out from the field of public utility for the exclusive pleasure of a very small number of individuals," and who in the course of time may recover the acres. Glimpses of the high grey tower of the associated dwelling-house are caught by the visitor as he drives across the park in a co-operative landau, and when he alights at the porch the place seems to him to be nothing less than a palace—and he observes that it is Gothic in style, and of the Perpendicular period. There is first a hall and picture gallery, with tessellated pavements, bronzes, and stained glass windows, which are light-subduing. A broad oak staircase leads to a balcony, and after passing under a massive pointed arch the visitor finds himself confronted by a heavy oak door, bestudded with iron bolt nuts, which forms the entrance to one of the suites of apartments. A suite, which is absolute in privacy, comprises a porter's office, a bedroom, a bath-room, a boudoir, and a study. For the common use of inmates there is one dining-room, two drawing-rooms, one library, one billiard-room, one theatre, one smoking-room, one writing-room. The servants, with the exception of porters, sleep in cottages beyond the park. Without the house are gardens, lakes, aviaries, cricket, croquet, and archery grounds, race-

courses, and what not. Does the inmate care to ride, there are horses in common, and if, through his unskilfulness, knees are at any time broken, but a thirtieth part of the loss falls on him. Does he want "to write a poem demanding a long-continued maintenance of a peculiar and delicately balanced emotion; or decide on a course of action requiring the marshalling of evidence and the due suspension of judgment"? He has but to remain on the inner side of his heavy oak door bestudded with iron bolt nuts, which is guarded constantly by the porter in his little office. What would Carlyle not give for such a dwelling-place—he who looked down grimly from the prison gallery and thought of the book he could write if he were only a dweller in one of the private courts, with all "taxes and botherations" shut out. Does the inmate want to go abroad? He may either hand over the key of his suite to the manager, and have no further concern for his goods and chattels, or he may have his suite let during his absence.

Such is the scheme which is offered in the *Westminster Review* as "a future reality, needing no advocacy or aid to its realisation any more than a predicted eclipse of the sun," and which the writer believes would give an impetus to architecture, painting, sculpture, decorative art, music and landscape gardening. How far it may ever be realised who can say? None of us can read the future or foretell what is to occur. But inspiring as is the picture, even the youngest of architect's pupils is not likely to be enticed by it to set about preparing for those happy days when such a new field is to be prepared to work in.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AN ordinary general meeting was held on Monday evening under the presidency of Mr. B. Ferrey. The minutes of the previous meeting were read and confirmed.

Mr. R. Phené Spiers asked whether some mistake had not been made in the announcement of the death of M. C. Questel, of Paris, as he had reason to believe that M. Questel was still living.

Mr. EASTLAKE said that the announcement was made by Mr. Cockerell, and he could scarcely believe that any mistake had occurred, but inquiries would be made. He had to inform the meeting that a communication had been received from Sir Edmund Beckett on the subject of Mr. Stevenson's paper, read at the last meeting. Sir Edmund had abstained from making any remarks after the paper was read, but on learning at the close of the meeting that some of the members would have been glad to hear his views upon the subject, he had furnished them in the form of a letter. It was for the meeting to say whether Sir Edmund Beckett's contribution to the discussion should now be read before being published with the transactions in the usual course.

The CHAIRMAN: Considering the great interest taken by Sir Edmund Beckett in the subject, I think it will be only right and an act of courtesy on the part of the Institute to allow the letter to be read.

The letter was accordingly read by Mr. Eastlake. [It will be found on p. 53 of our present number.]

The CHAIRMAN said that the communication was a very interesting one, and penned in the writer's characteristic style; but he presumed it would not be right now to enter into any discussion upon it.

A ballot then took place for the election, as associate, of Mr. John G. Hall, of 33, Masbro' Road, Hammersmith, and he was duly elected.

Mr. EASTLAKE called attention to the drawings on the walls, made by Mr. R. C. Page, during his tour as Pugin Student for 1874, and which, he said, were of a very charming character.

A paper was then read by Mr. C. Hadfield, jun., Fellow,

On the Restoration of the Lodge at Sheffield Manor.

Mr. HADFIELD said: The subject of this paper which I have the pleasure of reading here to night, in answer to the invitation of our secretary, would not under ordinary circumstances have been deemed of sufficient importance in itself to claim the attention of the members of this Institute, and find a place in the printed Transactions. It is not, however, the study of any artistic merits or peculiarities possessed by the little structure that seem to commend it to your careful attention, so much as the further investigation of an already well developed idea thrown out some years ago by the Rev. John Stacey, M.A., the accomplished president of the Sheffield Architectural and Archaeological Society—that in it we still possess the occasional abode of the ill-fated Mary Stuart, whose weary sojourn in Sheffield, from the close of the year 1670 to September 1684, under the surveillance of George Talbot, the sixth Earl of Shrewsbury, is matter of history. For the benefit of those who may wish hereafter to investigate the matter further, I will mention at starting that Hunter's "History of Hallamshire," and the collection known as "the Talbot Papers," in the Library of the College of Arms, and notably a folio volume labelled G, will give many interesting details of the Scottish Queen's captivity in Sheffield. Before proceeding to describe the building and its restoration, I feel I ought to give you an outline of the history of Sheffield Manor, its connection with the Shrewsbury family, its present condition, and the efforts made at the instance of its noble owner, the Duke of Norfolk, to rescue from oblivion one of the few historic relics remaining in Sheffield, which link her closely to the past, amidst the constant change and hurry of this busy nineteenth century.

Sheffield Manor was from the period of its erection, early in the reign of Henry VIII., by George Talbot, the fourth earl, until the death of Earl Gilbert in 1616, the favourite residence of the powerful Shrewsbury family, whose chief, the Lord of Hallamshire, owned the castle of Sheffield, rebuilt by Thomas de Furnival in the reign of Henry III., at the confluence of the rivers Sheaf and Don. This building was dismantled after the civil war, and finally razed to the ground, and little seems to be known regarding it beyond the tradition handed down to us in the names of the streets, &c., which now occupy the site, as "Castle Hill," "Castle Folds,"

&c. The position of the manor must have been singularly well chosen, for, standing on a lofty wooded eminence in the centre of the park about two miles distant from the town, it commanded views of the adjacent country of surpassing loveliness. Between 1522 and 1527 the hall was built, and we cannot be far wrong in assigning it to the date of 1525, as was pointed out by Mr. J. D. Leader in a Paper read by him at Sheffield to the members of the British Archaeological Association. Of this portion of the building a fragment remains, occupied as two cottagers' dwellings. The east elevation is timber-framed, and has traces of well-designed mouldings; a ribbed ceiling is visible in the living-room of one cottage, and there is no doubt that a proper survey, and a small amount of judicious reparation, will bring to light other features of interest, and give the old structure a chance of withstanding for years to come the further action of time. Leaving the range of buildings which fronts west are found to the south the remains of what appear to have been a number of small apartments, and from the east end of this front the buildings returned for a short distance to the north. In the enclosure between the tower chamber on the north, the long gallery to the west, and the range of buildings on the south, lay the garden; a portion of the original wall which formed its eastern boundary is still standing unaltered. Away to the east were probably stables and offices, amongst which are fragments of timber-framed erections, and traces of a gateway. On the west or entrance front, separated by what may have been a garden or pleasure-ground, stands the little building with which I propose to-night to occupy your more immediate attention. Hunter, in his description of Sheffield Manor, speaks of it as a porter's lodge, but this view, I contend, the important character of the finishing of the two chief apartments, which I shall describe presently, and its distance from the entrance and the ascertained position of the road from the manor to the town, put clearly out of the question. The manor itself was inhabitable, and occasionally inhabited, from 1616 to 1706, and from that date to the present time it has been steadily crumbling away. Squalid and rickety cottages, like parasites, have fastened themselves about the tottering walls; indeed, anything more dangerous than these dwellings, or better calculated to rouse the ire of our sanitary reformers, cannot well be conceived, and it is satisfactory to learn they are only on sufferance until arrangements for their removal can be effected, and the ruins enclosed and protected, as far as practicable, from further destruction.

The subject of my Paper owes its preservation to the fact of its use as the farm house for a century or more, and I think the drawings exhibited will explain to you its general appearance a few months prior to the visit of the Archaeological Association in August, 1873, when, in compliance with the instructions of the present Lord of Hallamshire, a survey of the building was made with a view to its reparation, his Grace having previously made a careful inspection, accompanied by my father, and devoted some time to a thorough examination of the structure. Restoration is, under any circumstances, a work of difficulty when one has to subject the landmarks of old times to our modern and but too often sadly-contracted modes of architectural treatment; but the case in question, interwoven as it is with the history of the unfortunate Queen of Scots, and forming a well-defined standpoint from which to view a very interesting period of her sad story, connected, moreover, as it was, with the great house of the Lords of Hallamshire, presented an opportunity, of which it is trusted good use has been made, to transmit to posterity the incidents of the ill-fated Queen's imprisonment.

Before proceeding to describe the building, I would draw attention to the general plan of the whole site which is before you, upon which the relative position of the main structure is shown, and I have also marked thereon the plan of a staircase, turret, and doorway of a brick building brought to view during some recent excavations, with the plinth course of the west front of the manor itself.

The lodge, as will be understood from the drawings, consisted of a ground, chamber, and upper floor, with a circular stone staircase surmounted by a brick turret, by which staircase alone access was obtained to the various parts of the interior, and the lead flat or terrace—about this more hereafter. The ground floor had originally, and as now restored, two rooms separated by a braced oak partition or studding, plastered, on which the main floor girders rested. The floors above, owing to the decay of the timber ends, and the weakening of the lower part of the partition by the opening of a modern doorway, and the originally defective construction, had sunk, and it therefore became necessary on the ground floor to replace the studding by a brick wall, marked on the plan, which now takes the whole weight of the upper floors and roof. The inner room has had a separate external entrance, traces of which were found when removing one of the modern window-frames; and it was considered advisable, in the absence of evidence as to the design of this doorway, to wall up the opening, leaving the fragments of the jamb stones *in situ*, as now shown in the elevation—a lintel being put across to carry the walling. In each room is a capacious stone fireplace, and two windows with stone mullions and transoms. The internal doors are of oak, hung to chamfered oak posts, those which give access from the staircase to the various chambers being specially strong, as the original iron crooks which remain in the jambs bear testimony. The first, or chamber floor, consisting of inner and outer chambers, is divided as below, the floor being of gypsum or plaster, and the inner room having a ribbed plaster ceiling of simple but effective geometric pattern. The fireplaces are of stone as below, with herring-bone brick backs and stone fender hearths, and they were found unaltered on the removal of the modern grates and chimney-pieces which had, luckily, only masked them. Still ascending the stair, we come to what was undoubtedly the principal apartment in the lodge. This room, with its heraldic mantelpiece, its admirably designed ceiling, and general *ensemble*, has always been popularly known as "Queen Mary's room." There is an anteroom attached, and the floors are also of plaster, as is the case at Haddon Hall and other local mansions of the period. It may, in passing, be well to note here that in both these upper rooms hooks are remaining close under the plaster cornice mould, from which doubtless the tapestry was suspended. Evident care had been taken with the design

and execution of this beautiful ceiling, for such it undoubtedly is. The rib mouldings are well designed, sharp and delicate as becomes the material plaster in which the work is executed; the panels contain delicately modelled enrichment of early Elizabethan character, and the Talbot badge encircled by the garter, surmounted with the coronet, is prominently displayed in the leading panels.

The repairing of this work was an operation of some difficulty, for it was found on examination that the ends of many of the ceiling joists, as indeed was the case with the bearing timbers throughout the building, had become decayed; and further, that the oak plastering laths were much decayed above; portions of the ceiling itself had also been damaged by the leakage from the roof, and the delicate ornament was nearly obliterated by repeated coatings of limewhite. It was necessary, in the first place, to splice the ends of the joists, and thus give them a good bearing on the walls; but before attempting to do this, the whole ceiling was carefully propped from the underside. The work of splicing was then carried out in safety, the decayed laths removed and replaced by blue slate secured to the oak ceiling joists, and run solid with plaster, and the lead flat relaid. The whitewash was removed by repeated softening with warm water and the application of a hair brush, the enriched panels, some of which had become loosened, were securely fastened, and the whole then carefully flatted in oil colour to prevent future damage. Immediately below the cornice moulding is a frieze composed of conventional ornament of exceedingly graceful character, eight inches deep, with a neck moulding at the foot, which, no doubt, formed a border to the tapestried hangings of the room. So far as could be ascertained from a careful inspection, there were no traces of colour or gilding, which, as is well known, was freely used on such ceilings at that period.

We have now to describe the principal object of this interesting apartment, viz., the heraldic chimney-piece, which, in the opinion of the Rev. John Stacey, "seems to give considerable support to the hypothesis that the building which contains it, and the room especially to which this fire-place belongs, was designed as a place of safe keeping for the Queen of Scots on such occasions as she was permitted to retire thither from her durance in the castle of Sheffield." The structure consists of two parts, the stone jambs and head, of Tudor form, enclosing the fire-place proper, similar to that shown in the outer room on the section. An architectural framework surmounting the whole is constructed in stucco, which has acquired the hardness of marble, on an oak cradling, secured to the wall, obviously fixed for a purpose, and in a somewhat rough and ready fashion; indeed, owing to the decayed state of the cradling, the whole had become partially detached from the wall for some time past, and was in a condition which threatened its early destruction; the fire-place opening had been walled up, as also had been that in the outer room, and plastered over, and on clearing out the rubbish several fragments of majolica tiles of good design were discovered; they are on the table to-night. The whole design bears a striking resemblance to the like structures one observes at Haddon, Hardwick, and other mansions of the same date. Upon a stucco cornice, which forms as it were the shelf of the fire-place, rest a pair of engaged columns, with rude Corinthian caps, the centre being occupied by a shield, charged with the quarterings of George, the sixth Earl of Shrewsbury, encircled by the garter, with the Talbot supporters and coronet; below, on a ribbon or scroll, is the motto "Prest d'accomplir."

Having described minutely other heraldic bearings, Mr. Hadfield said that in the inner room the window towards the manor had the Fitzalan and Howard badges, and in the border of the glazing below the legend, "This lodge was restored by Henry Howard, Duke of Norfolk, 1873." In the opposite window are the badges of Mary Stuart, and the legend, "Tradition hath it that Mary Stuart, Queen of Scots, was imprisoned here."

In conclusion, Mr. Hadfield said: We have now completed the survey of this apartment, and returning to the turret stair we ascend by it to the terraced flat which forms the roof of the lodge. From this elevated position a magnificent panorama of the surrounding country for many miles may be seen on a clear day, and here, perhaps, the captive Queen, as is recorded of her when at Sheffield castle, was wont to take the air. The lead forming this flat is the original covering, and in order to preserve it as far as possible intact it has been taken up and relaid, sheet by sheet, upon new lead after the repairs to the roofing timbers. The winding stair is enclosed by a circular turret, built with thin red bricks, and surmounted by a lead-covered dome. On the removal of the rough casting which covered the exterior, a small window or loop hole, which commanded the road from the manor to the town, was brought to view. I have only now to describe the exterior of the building, which had been greatly disfigured by modern alterations. The upper portion of the parapet and one of the chimneys had disappeared, the stone mullions of most of the windows had given place to wooden sash frames, while those at the back had been walled up, new doors and openings had been introduced, to the serious detriment of the structure, and the original external entrance had been walled up and concealed by the plastering, which covered the whole exterior face of the walls. The drawings exhibited have been prepared after the completion of the repairs, and are an accurate representation of the building as it now stands, and will, I apprehend, explain to you what has been done without further comment. I have only to add that the exterior is of a somewhat coarse rubble masonry, and the details generally are later in style than the remains of the manor, the whole work bearing evident marks of hasty construction. I feel that, having already trespassed too long on your forbearance, it is quite time to bring my Paper to its close, and I will only say, in conclusion, that the restoration has been throughout effected in the most conservative spirit, and, in accordance with the expressed wish of the noble owner, all old work has been reverently and carefully preserved, and new materials have been introduced only where absolutely necessary.

Mr. MORRIS said that there was one point in connection with the architecture of the building which claimed attention. He thought that Mr. Hadfield, in speaking of the gate-keeper's lodge, had gone rather away from

the subject, and that "gate-house" was the proper term, as being in analogy with such buildings as the old gate-houses which were attached at that time to all important mansions, in accordance probably with the old Dutch fashion introduced into this country by Henry VII. and his followers. There were examples of this at Lambeth Palace, St. James's Palace, and elsewhere. He thought that part of the building must have been inhabited by some much more important officer than a subordinate gate-keeper, or was occasionally used for some special purpose.

Mr. FERRY said he could not call to mind any gate-house properly so called that did not contain an archway. Such a building was generally constructed with an entrance to some external quadrangle. That this was a lodge in the sense ordinarily understood he could not imagine; it might have been a lodge for some high officer, but not an ordinary gate-house.

Mr. TUCKER said there was a tradition that the Queen of Scots endeavoured to escape from the castle, and that the lodge was provided by the Earl for her better security. He thought there could be no doubt about this, especially as in the list of the contents of the house were things which referred to the furniture of a building out of the house, and would not be provided in merely a servant's lodge.

Mr. LEADER, of Sheffield, desired to endorse the suggestion that the little lodge had been built for the better security of the Queen of Scots, and said that, assuming this were so, it was the only remaining relic of her confinement; it was, in fact, the only place of her confinement preserved.

Mr. HADFIELD said that it was Mr. Hunter who had spoken of the porter's lodge; but he agreed with Mr. Morris that it was a building that must have been erected for some special purpose. It appeared that the Earl of Shrewsbury had carried to Burleigh a plan of a lodge that he was building in Sheffield Park, but whether it was this particular lodge he was unable to say.

Mr. J. T. WOOD had great pleasure in proposing a vote of thanks to Mr. Hadfield for his Paper.

Mr. BRANDON, in seconding the proposal, spoke of the Paper as possessing considerable value archaeologically and historically. He was delighted to listen to it because it introduced matter that was somewhat different from that contained in mere architectural discourses and lectures—the information imparted being of a very valuable description. Additional interest attached to the Paper from its being connected with the history of very stirring times, and he hoped the example of Mr. Hadfield would be followed by other members.

The motion having been put from the chair and carried, Mr. HADFIELD, in reply said that, when works came into their hands in the course of their commonplace professional career, he thought it was only the duty of the architect to devote a little time to the task of setting before his professional brethren any matters of interest connected with the particular work; especially in a case like the present, where so much doubt and difficulty had occurred in ascertaining the real purpose for which the building had been erected. But for the work which had been undertaken this little building would have perished in a few years, as the rest of the manor had done.

At the request of the Chairman, Mr. EASTLAKE read a letter received by the council from Mr. Herbert Carpenter, calling attention to the very unsatisfactory nature of the repairs proceeding at New Shoreham Church, and which were being carried out by a local builder, the destruction of much fine Transitional work having already resulted from the operations. The attention of the Bishop of Chichester and the President of Magdalen College, Oxford, had been directed to the matter; and Mr. Carpenter expressed a hope that the Institute would consider the question from an antiquarian point of view, in order that so interesting an example of Transitional architecture might not be obliterated.

Mr. EASTLAKE expressed a hope that the action taken by the Council in the matter would have the effect of preventing any further destruction.

Before the proceedings closed it was announced that the meeting for the award of the Royal Gold Medal would be held on the 15th of March instead of the 1st; and at the next ordinary meeting, on February 1, a Paper on Public Abattoirs would be read by Mr. A. Darbyshire.

THE SISTINE FRESCOES.

MR. C. HEATH WILSON is engaged in an elaborate examination of the frescoes in the Sistine Chapel, for which purpose he has been supplied by the Vatican authorities with a scaffolding of more than 50 feet in height. On the state of the frescoes he writes:—

"I have seen those on the vault of the Sistine under the most favourable circumstances possible, to learn with a conviction settled and immovable that these are the greatest and most perfectly executed works of fresco painting in the world. They have been frightfully ill-used. It is not smoke only which has damaged these immortal works, but rude and barbarous hands have been there. I think that the damage might be remedied. The *Last Judgment* has been so repaired in many parts as to be in no respect—I mean in point of general effect and chiaroscuro—what Michel Angelo made it; but the vault frescoes at any rate have not thus been used; they are for the most part free from barbarous and monstrous retouching; but portions have been scoured, I know not when, by working masons, I suppose, for no other hands could have used them so; but the divine painting, although soiled, is there as he left it, as it came from his hands and mind, in all its majesty, its beauty, and its absolutely matchless technical skill, and reverent hands might remove cobwebs and dust, and might stop gaping cracks and clean a way smoke—for the frescoes are hard and sound. I wiped away cobwebs with a silk handkerchief, and a dark accumulation of this from the breast of Adam. As these hung down in dirty festoons, veiling beauties, I could easily with a light sweep, not touching the surface, cause these accumulations of, I suppose, some generations of spiders to fall down in dusty dusky filaments. I am quite persuaded that the picture of the *Last Judgment* was originally harmonised by Michel Angelo with the ceiling with all his matchless skill—its dissonance has been caused by the work of later times, and in some places it has been mended by hands not trained in knowledge of art at all."

ILLUSTRATIONS.

NATIONAL PROVINCIAL BANK OF ENGLAND, SOUTHAMPTON.

WE illustrate this week one of the branches of this important Banking Corporation, numbering as it does more than 130 branches in London and the provinces, which was completed some little time ago from the designs and under the superintendence of Mr. JOHN GIBSON, of Westminster.

The fronts are constructed of Portland stone for the more exposed portions, the remainder being of Corsham Down stone. The ground floor windows are protected by iron grilles, and the open entrance-lobby by ornamental wrought-iron gates.

As will be seen from the ground plan, the principal entrance is in the High Street, the entrance being arched and coffer-panelled. The banking-room is entered therefrom through mahogany swing doors, glazed with embossed glass, with covering or right doors to fold over them; the recesses on either side of this lobby have pendentive ceilings.

The walls of the banking-room are divided into panelled bays by Devonshire marble pilasters, with dado moulding below; the caps are enriched, and from them spring the groins of the moulded and panelled ceiling as indicated. This room is heated by a powerful stove, supplied with fresh air from the exterior, and the ventilation outlets are carried to the roof. The fittings are of Spanish and Honduras mahogany, the public space being paved with encaustic tiles. The manager's residence is entered from St. Michael's Street; on the mezzanine floor, over the consulting and book rooms, are kitchen offices, his apartments extending over the whole of the first and second floors. Additional book-rooms, &c., are arranged in the basement. Messrs. BULL & SONS were the contractors.

HOUSE AT STOKES BISHOP, NEAR BRISTOL.

THIS house is now in course of erection for Mr. H. FREDDEN, from the designs of Messrs. PONTON & GOUGH, of Bristol. The walls are built of a warm brown-coloured stone, quarried on the site; the chimneys are built of local red bricks. The roofs are covered with plain Bridgewater red tiles. The bands and window dressings are of Bath stone. The upper portions of the windows will be filled with leaded glass, in geometrical patterns. The house is built on the slope of a hill, the ground being filled up on the side of the entrance front to a level with the ground floor. A wide verandah is built to the side shown in the view, giving access from the principal rooms to the front lawn, on a level with the basement floor.

CONGREGATIONAL CHURCH, LITTLE HADHAM, HERTS.

THIS church is being erected in red bricks, with patterns in white, and with slated roof. The spirelet is covered with shingles, and the windows are to be filled with cathedral glass, in lead quarries. The pulpit is to be in oak, with carved panels, and the seating is in deal, stained and varnished. The church is to be warmed by means of a stove placed in a pit in the centre passage. The builder, Mr. JAMES THURGOOD, of Great Hadham, has contracted to do the work for 572*l.*, and the architect is Mr. JOHN SULMAN, of 1 Guildhall Chambers, Basinghall Street, E.C.

CONGREGATIONAL CHURCH, SCHOOL, AND MINISTER'S HOUSE, NANTMAUR, SALOP.

THE buildings shown in the view consist of church, with school below, and minister's house. They are on the side of a mountain, and the slope enables an entrance to be got from the ground level into both church and school.

The walls are built of bricks, and faced with fire-bricks, and the strings and weatherings of brown glazed stoneware, as the local stone is inapplicable for building purposes. The roofs are covered with slates.

The school will accommodate 100 children, and the church will seat 160. There is a porch on the farther side of the church. The house contains six rooms, and has a small stable, &c., attached. The builders are Messrs. GRIFFITHS, and the contract for the whole, including boundary walling, is for 1,050*l.* Mr. JOHN SULMAN, A.R.I.B.A., of 1 Guildhall Chambers, Basinghall Street, E.C., is Architect.

PALAIS DU JUSTICE, HAVRE (SEINE INFÉRIEURE).

LAST year there was a competition among French architects for this building, and the prize was carried off by M. Jules Bourdais, who was subsequently awarded one of the Salon premiums for his design. Some critics, however, objected to it at the time, on the grounds that the façade seemed to be too closely inspired by some of the Paris buildings.

THE BRITISH MUSEUM.

MR. COLE'S indignation, when some time ago it was proposed to place his creation at South Kensington under the same management as the British Museum, although it was rather grotesquely expressed, was at the time acknowledged to be not without reason. The public, judging from its own point of view, compared the two museums, and the verdict was almost unanimous. One was alive and active, and was really doing good work, although there was rather too ostentatious a parade of it. The other was drowsy and dull, and so far as could be seen was doing absolutely nothing. At Brompton the public were welcomed and encouraged, and students especially received every courtesy and assistance. At Bloomsbury, on the other hand, the public were excluded three days in the week, and students were met on all sides with checks and annoyances which sometimes drove them from the place in despair. This is what men thought and said then, and we do not know that matters have changed much since; and by recent revelations it appears that at the British Museum those matters which are not visible to the eyes of the public are in even a worse state than those which lie before them.

There have long been murmurs about the unwholesome atmosphere of the Museum. Few men can spend half a day in the reading-room without paying for it with a head-ache; and those who have friends whose duty it is to be there all day and every day have often heard the remark that the place was killing them. The general tone of the men is sickly; serious illnesses are common amongst them; and now we have the death of Mr. Warren following closely upon that of Mr. Deutch, and other serious cases, which the public hear nothing of, all said to have been hastened, if not to have been caused, by the unhealthy conditions under which the assistants are engaged.

The places where the men work have been not inaptly described as *tanks*. The spandrels filling up the corners between the circular reading-room and the enclosing square are fitted up for the stowage of books. They are divided into three storeys by floors of light iron gratings, and book-cases are arranged so as to form corridors and closets. At the top is a large skylight, which has to serve all three floors, and at the bottom are the unlucky clerks. Ventilation properly so called there is absolutely none, and the warming is by the admission of hot air from below, and the arrangements are so careless that there are instances of the seats being placed actually over the hot-air inlets. The place is, in short, utterly unfit for the use to which it is put. It was evidently intended originally to lay up books in, and it is simply barbarous to compel men to work there. It is said that Mr. Warren, shortly before his death, having several times complained in vain, took his medical man to see the place, and, armed with his professional opinion, again brought the case before the authorities. It is difficult to believe the account of the reception he had, but we regret to observe that, beyond the fact of the *Times* heading the story with the word "*Impossible*," no kind of contradiction has been given to it.

It is said that the answer Mr. Warren received was, "How dare you introduce a medical man into the Museum without leave?" Mr. Warren was admonished—and died. And it seems not impossible that some others may shortly follow his example, and yet, we are told, the chiefs maintain that the warming and ventilation are perfect. The mouths of the victims, amongst whom are men of European reputation, are stopped; appeals to the trustees are of little use, for they can only be reached through the superior officers, who regard a complaint as a breach of discipline; and unless public opinion can be brought to bear on the case, or at the next death a coroner's jury bring a verdict of manslaughter against those who are responsible for the present state of things, there can be no doubt that further valuable lives will be sacrificed. We do not believe that any good can be done by altering the present dens. Proper offices ought to be built, well furnished, warmed, and ventilated, and fit for occupation. It is discreditable that an institution which costs the country 100,000*l.* a-year should be without decent accommodation for its staff.

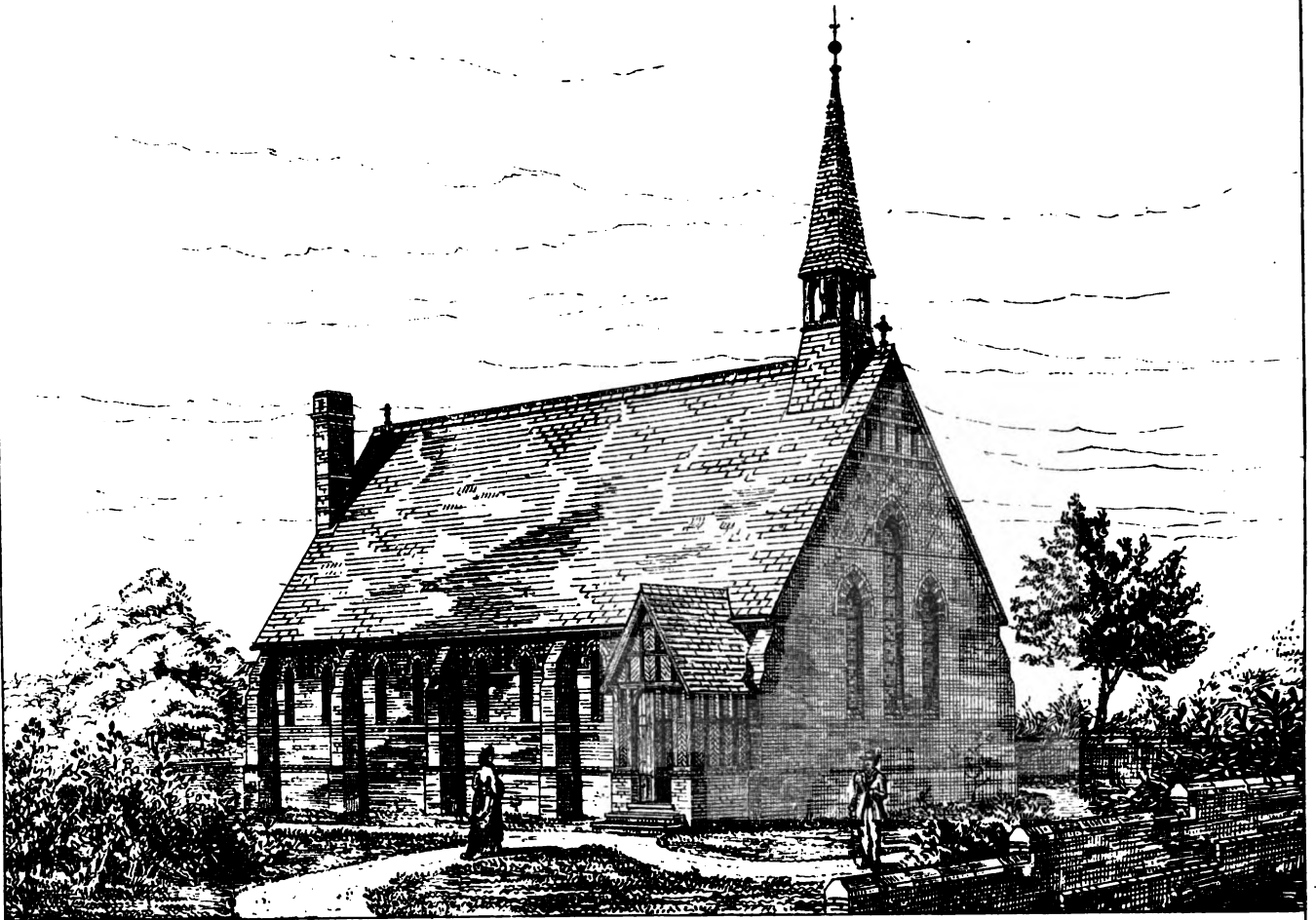
The position taken up by the chiefs strikes us as being one of those blunders which is worse than a crime. They cannot be ignorant of the facts, and one at least of them has had, we believe, personal experience of what they are, for his own post used to be in one of these pits, till it brought on a severe illness, after which he obtained a change. Whether his own subordinates are now amongst the victims we know not, but surely he cannot refuse to use what influence he may have towards the ameliorations of those evils, the reality of which he knows only too well. It is useless for the heads of departments, sitting in comfortable rooms, to assure us that the warming and ventilation of the building are perfect, and that their subordinates cannot possibly be uncomfortable. The cobbler may demonstrate to perfection that the shoe does not pinch, but unfortunately the patient is impervious to syllogism. And lookers-on generally take the patient's view.

BUILDING IN MELBOURNE.

A CORRESPONDENT at Melbourne, writing to the Engineer of the Clyde Trust, says:—

"Labourers in the building trade have succeeded in getting 8*s.* per day of 8 hours—nearly as much as some artisans are getting, so that you can easily see that building is rather an expensive process, despite which trade was never so brisk. The Government are laying out large sums of money on railway works and public buildings, both in Melbourne and all over the country. The new Education Act, which makes the schooling of young Victorians free and compulsory, and, of course, secular, has necessitated the outlay of large sums for new schools. The Act has been only about twelve months in force, and the cost of building is nearly half a million of money. It looks likely to be a grand success, even with all the expense. We are now in course of erecting new Government offices, at a cost of 150,000*l.*"





CONGREGATIONAL CHURCH - LITTLE HADHAM - HERTS.

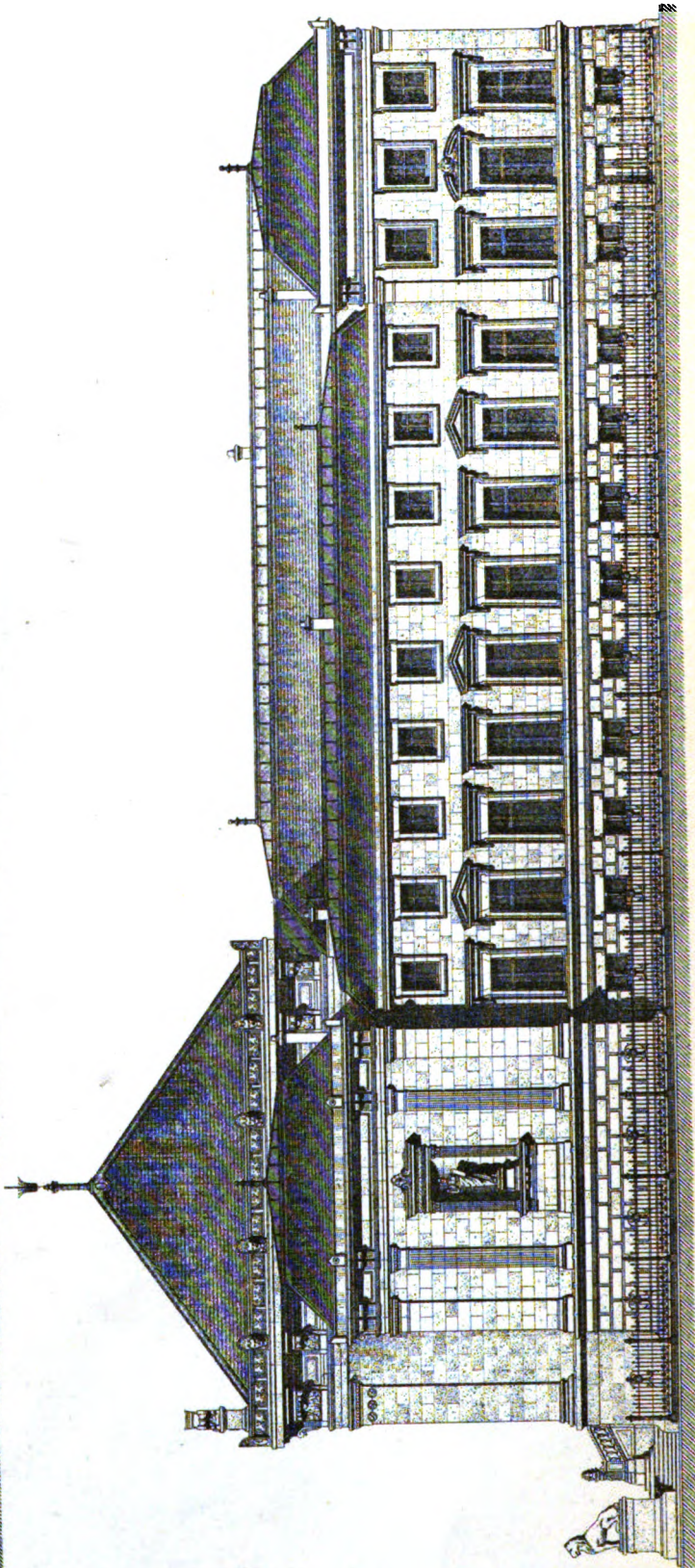
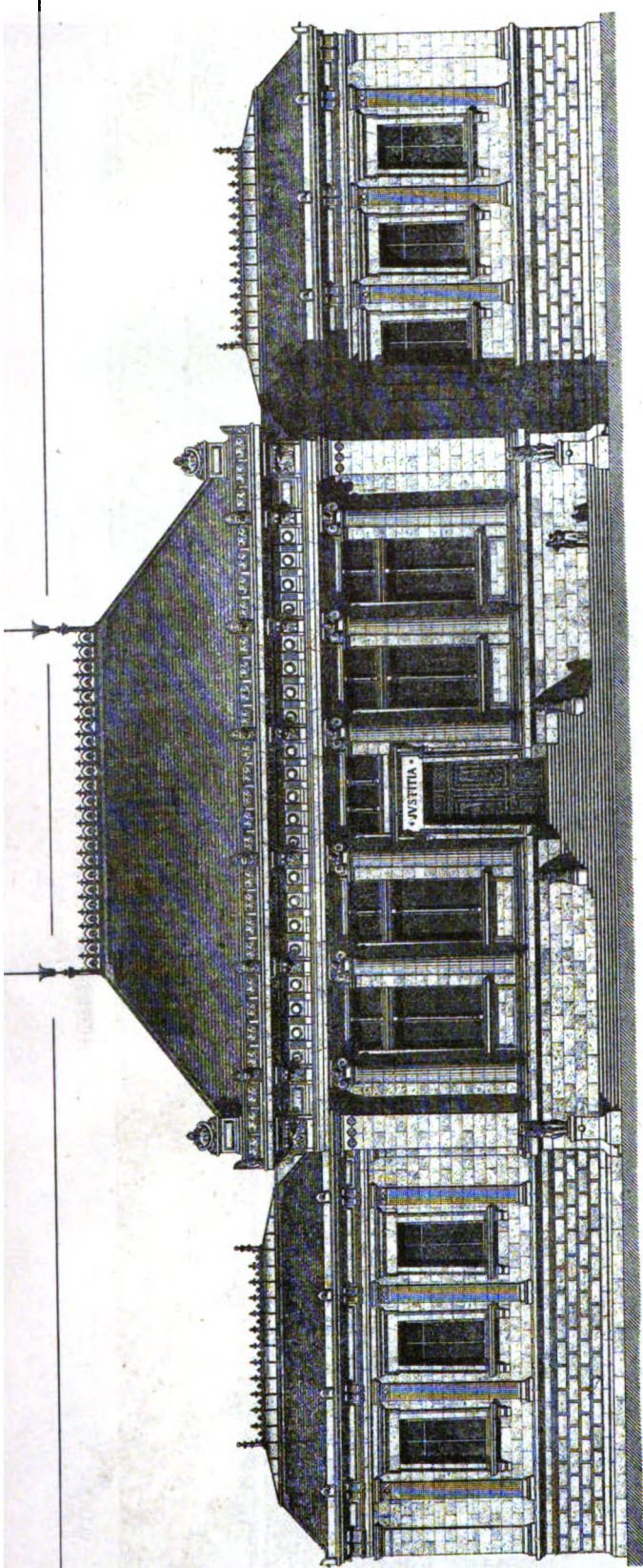


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CONGREGATIONAL CHURCH & MINISTER'S HOUSE - NANTMAWR, SALOP.

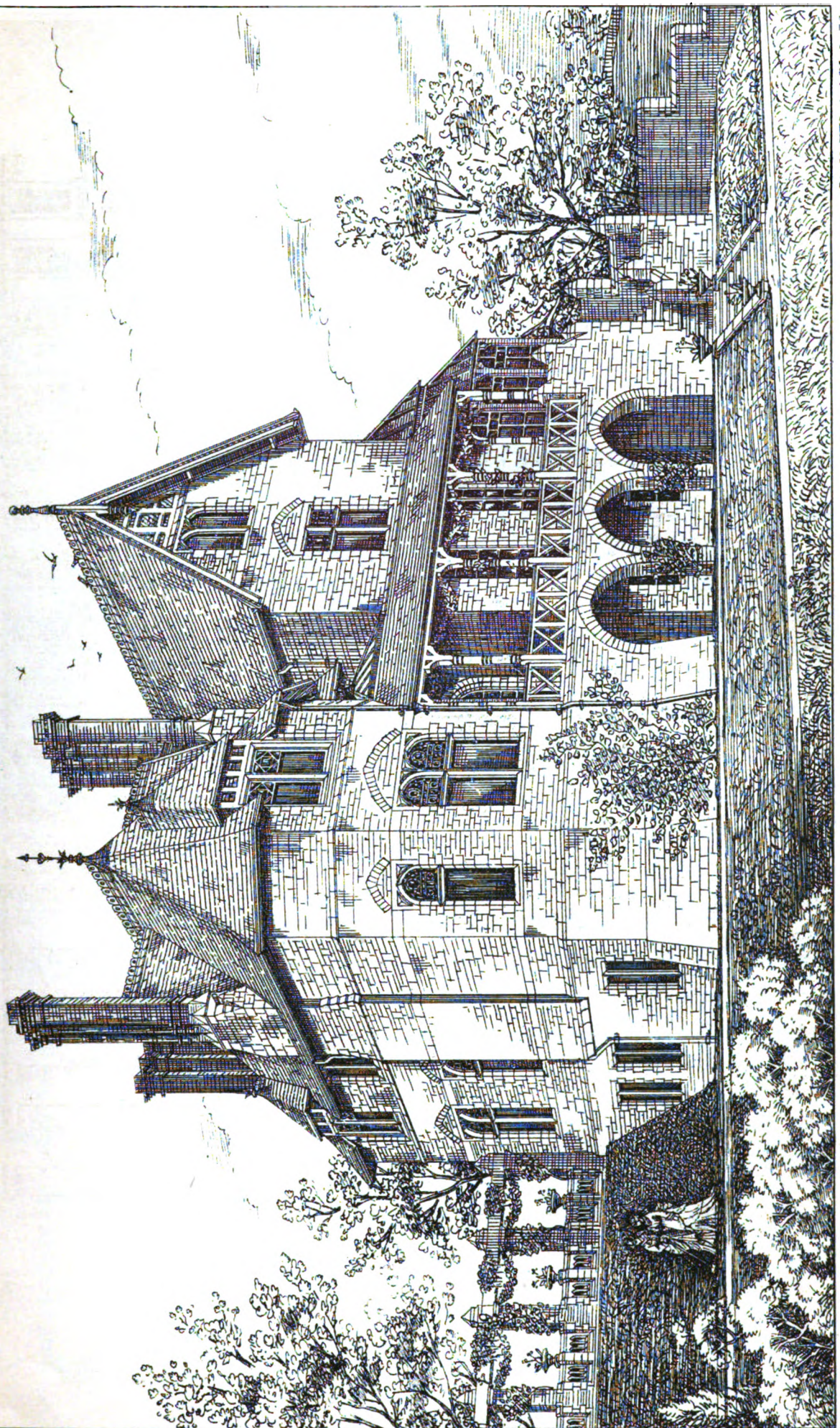
JOHN SULMAN, A.R.I.B.A., ARCHITECT.





PALAIS DE JUSTICE, HÂVRE (SEINE INFÉRIEURE).
M. J. BOURDAIS ARCHITECT.

Engraved by W. D. Simpson & Co. London, E.C.



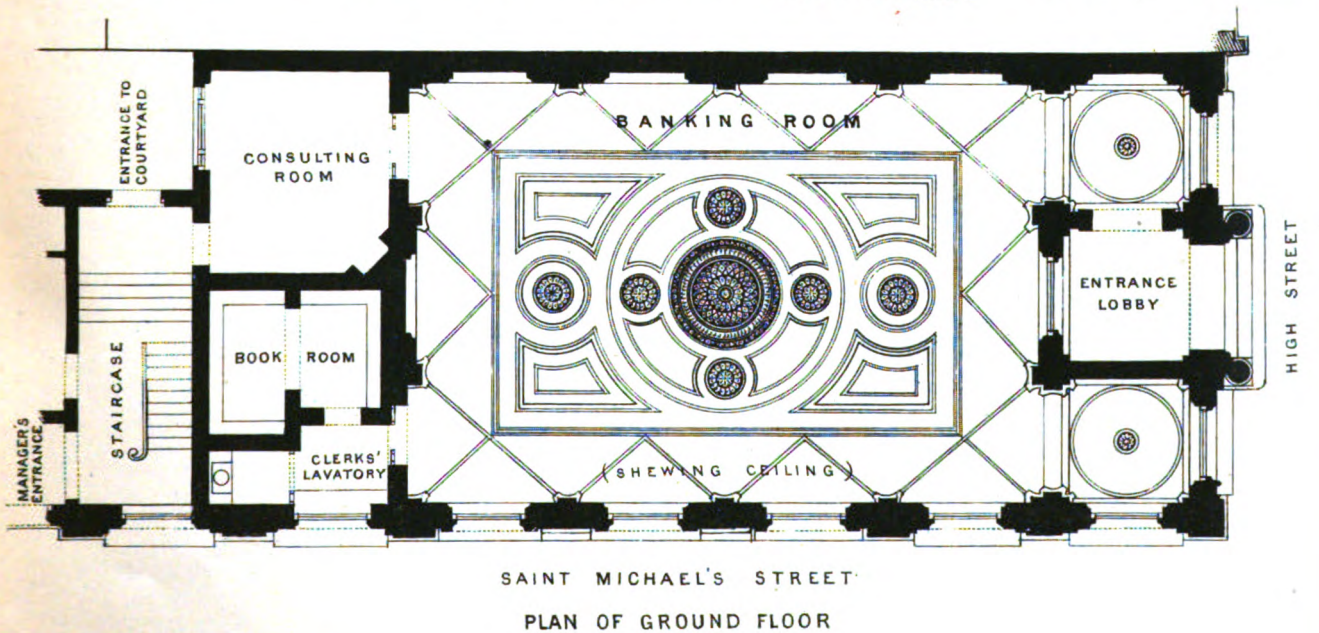
HOUSE AT STOKE BISHOP NEAR BRISTOL.

(NOW BEING ERECTED FOR M^r. H. PEDDEN.)

MESS^{rs} PORTER & GOUCH ARCHITECTS.

Designed by W. H. Stanger & Co. London & C.







SIR EDMUND BECKETT ON ARCHITECTURAL PRACTICE.

THE Secretary of the Royal Institute of British Architects has received the following letter from Sir Edmund Beckett, Q.C., and which was read at the meeting on Monday evening:—

Dear Sir,—At the late hour when the President invited me to speak on Mr. Stevenson's Paper, I thought it much better that he should have time to review the discussion than that I should be heard again. At the same time the Paper and the speeches of the evening did suggest to me some reflections which I take the liberty of sending you, because several members present were pleased to say afterwards that they wished I had spoken, and also because two other Papers are going to be added, to complete this very interesting discussion.

On the main subject of Mr. Stevenson's Paper I can only say that I should be amused to hear him and Mr. Fergusson fight it out between them. But as a practical matter I do not care the least whether architecture ever was, or is now, or ought to be, a "technic" or a "phonetic art," or to be called by other epithets which ingenious men may invent. I am sure, because I see, that architecture has not been advanced or improved one bit by all the eloquence and philosophy of that kind which has been poured out upon it in the last twenty or thirty years; rather I believe it has been worsened by it, or that the advance, such as it has been, has been turned into a wrong direction: if you like, chiefly by amateurs, as they have been the most profuse in that kind of literature, though they by no means stand alone. I was glad to hear that the President had come to the same conclusions as myself about the position of the designers of buildings in old times; and that he was no more able than I am to say in what the hope of architecture does consist, though it is easy to see many things in which it does not; and specially in the abolition of your profession, which is as necessary to mankind as mine. I was also glad to hear so many candid admissions that the present state of architecture is by no means satisfactory. I was, however, surprised to hear several of you intimate, half jocosely, but apparently half seriously too, that one cause of that condition is that architects are not allowed a higher commission; and therefore (I conclude they meant) it is necessary to undertake more than they can properly attend to. First, I remark that that is a stereotyped and inevitable complaint against the most eminent men in all professions, and must be left to adjust itself by the public choosing in every case whether they will have the undivided attention of men who have little to do, or as much as they can get from those whose attention many people choose to share among them. But if any architect expects the public to believe that he would take less work if he were paid more for it, he expects the public to be a good deal "greener" than they are. I know of nothing, or rather I know that there is nothing, to prevent architects from naming beforehand any charge they please for any given work, although it is true that if they say nothing a jury would be directed to assume the 5 per cent., which architects in trials have sworn over and over again to be the customary charge for designing and superintendence. I need hardly remind you that the percentage system has been abolished in the new arrangements with all architects employed by the Government, and that they are to receive a fixed sum to be agreed on beforehand, and that the same system has been followed in some other cases. I only wonder that architects did not long ago perceive that the percentage mode of payment gives a constant support to the most constant complaint of the public against them, that their estimates are nearly always exceeded—not so much by miscalculation or mistake in the estimate itself, as by the omission of things which the architect must foresee will be wanted, though his employer for want of experience does not. It is true that that complaint is very frequently unjust, and that estimates will always be liable to be exceeded under any system, because nobody can foresee all that will occur to him as desirable improvements in the progress of any but the simplest building. But people in general do not know that, and they naturally set down every suggestion of the architect for an improvement to a wish to increase his own bill, so long as it depends on the cost of the building, and every omission to a desire to make the employer believe that he was going to spend much less than the architect well knew would be necessary. I have indeed known that motive distinctly confessed afterwards, as a piece of cleverness of which the confessor was rather proud than ashamed. It would take more time than it is worth to illustrate some of the many absurd and unjust results of the percentage system, sometimes on one side and sometimes on the other. The excuse made for it, that it is "fair upon the whole," is only like the idea of some people that what they call "substantial justice" is a kind of balance of injustice, and that if A gets too much from B in one case, B is compensated by A getting too little from C in another case. I am quite sure that it has had a very prejudicial effect upon architecture, and the sooner everybody else follows the system of payment adopted by the Government the better. An architect must be better able to judge for himself than any arbitrary general rule can judge for him what amount of trouble any given work will require, and to estimate the value of his own time according to his position and other circumstances.

The next point on which I have to remark is the frequent assertion here that the bad taste of the public, and of amateur critics and writers, is the cause of the great quantity of bad architecture which is admitted to exist. Undoubtedly it is, of some. But for one design which is affected by the public, or the employer, or by amateurs, architects have simply their own way and do just as they like in ten, and probably in many more. You need not be influenced by amateurs unless you like; and I confess I cannot see how the contempt with which some of you speak and write of them is to be reconciled with these repeated declarations that you are influenced by them to such an extent that they are responsible for what you produce, except in the very rare cases when you get hold of an employer who knows how to make a contract, and to reserve the right of paying his money for what he likes and not for what he dislikes, which some architects evidently

make it a matter of principle to resist whenever they can, and always try to have contracts which enable them to do so. That also is now prevented in the Government agreements, and in all that I have had any hand in, both public and private, for a long time.

I did not understand what practical view Mr. Stevenson meant to take of the question of originality or "individuality" in architecture, of which he said a good deal historically. If he meant that there is more of it now than there was in old times, I agree with him; but if he meant to claim that as a merit of modern architecture, and as a good answer to the critics who are always "crying after the moon" of a new and original style, I disagree with him. The proper answer to them is that which (as far as I know) I alone gave in my book on church building twenty years ago, when that cry began—that a new and original style (with the old materials) is impossible, for the simple reason that all the available geometrical forms of every building and every part of a building have been long ago exhausted: at any rate no man has a right to call on us to believe the contrary until he proves it by producing new ones. The other answer, which has been often given, and repeated by somebody in this discussion, is also perfectly correct, that no new style ever was invented, but that all of them grew by spontaneous development and insensible degrees out of the existing style of the time. Further, I am convinced that the striving after originality and individuality in these days is the cause of the worst architecture we have, except that British Workman's style which is the *Quarterly Reviewer's* climax, and which consists in buying or copying odd bits of other peoples' patterns and sticking them together. That, again—I mean the pretence of originality—is just the style which competitions have done so much to foster. I do not believe that a drawing of any old parish church, school, hall, or any other building, would have the smallest chance of a prize from an ordinary or perhaps extraordinary competition committee, if they did not know where it came from.

I believe that everybody, however eminent as an author, who has written a word in support of that theory of a new style being either wanted or possible, has added his one or more stones, as it may be, to the mountain of nonsense on which most architecture has been built of late, since the justly condemned mere copying of fifty years ago went out. The *via media* is always the least popular of any way: otherwise it would seem strange that so few people should see that there is a middle way between that slavish copying and putting together of bits of old architecture and the miserable pretences of originality and invention by designing something which is only new because it is too ugly for anybody to have ventured on it before. Boys used to be flogged at Eton if they copied their Latin verses, but praised for making them after the fashion and in the spirit of the old poets; which perhaps one boy in a thousand could really do. Verses by Lord Wellesley and Bishop Lonsdale have been pronounced worthy of the Augustan age, and frequently reprinted; and perhaps some later ones; though it is as true of Latin poetry as of architecture, that as a whole it must be far behind the best originals. The President has rightly declared that the idea of a "vernacular architecture" ever again existing is absurd and not worth talking about: that is, an architecture of everybody, and peculiar to the age, as the language of any people is for the time, and as the architecture of each period of the middle ages and the earlier ones was, and as it seems there still is in India, where the indigenous or vernacular style has not yet been driven out by others. The present confusion or universality of styles, which we must take as a *datum* or a fact beyond contending against, may be a cause of the decline and almost disappearance of any public architectural criticism, which Professor Kerr lamented the other night. I join in his regrets; only I cannot forget that while there was any periodical or regular criticism of architecture, it had sunk pretty nearly to the level of the literary criticism of the theological newspapers, which is merely the prejudiced rubbish of partisanship. Architectural criticism had become almost all ecclesiastical; and even now architects know that the best way of creeping into practice is to play up to ecclesiastical prejudices, and get some well-sounding epithet attached to them or to their style of building. Every now and then public opinion does break out into real and genuine criticism of very outrageous attempts, such as I noticed before. But it would undoubtedly be a benefit to architecture and architects if their works were generally reviewed by persons as competent as I suppose some of the regular critics of pictures are who are employed by the best newspapers. I am afraid the late *Quarterly Review* attempt at discriminative criticism, especially after the President's amusing exposure of its success at Westminster, does not afford much more hope of architectural criticism than it does of architecture.

What then, if any, is the conclusion of the whole matter? I mean, if we were starting a young architect on his career, what should we advise him? If his object is to make money as soon as possible, no doubt there are ways better known to architects than I can pretend to teach. But if his object is to make good buildings, and gradually to make a lasting name and reputation, though perhaps very slowly, I should think the humblest and most prosaic course would be the best. I should say, dismiss all grand ideas of new styles and the "poetry of art," and the philosophy of architecture, and all that kind of thing; and whatever you do, don't call yourself an "artist." An artist is a man or woman who executes, whether he more or less designs besides; and ranges from Phidias and Apelles down to a singer, a dancer, a cook or hair-dresser—all excellent things in their way; but no good ever comes of confusing well-understood terms. You are artists in respect of your drawings, but not in respect of the buildings made from them; and experience has long enough shown that there is no connection between the power of drawing nice architectural pictures and the power of producing fine buildings. All the fine talking in the world cannot and need not make anything better of an architect than a designer of buildings, as every man of common sense knows that he is. If he chooses to paint or carve besides, he would therein be a painter or a carver, but an architect not a bit the more or less, just as a lawyer may also be a painter or a mechanic. I should next say, when you have a building to design, make up your mind, unless it is made up for

you, in what known style it is to be; bearing in mind always that it is hardly possible for any man to design with spirit in styles so opposite in their principles as Classical and Gothic; and accordingly no architect of any fame willingly does so, and it is a pity when they do it unwillingly. Then, simply set to work to design whatever you think will in the long run look the best, not the most original, or the most fashionable, or the most of anything, except the best. If your employers will not have it, do the best you can either to convince or to satisfy them by such alterations as will also best satisfy yourself; but if you begin to ride the high horse, and tell them in effect that they are fools, they may not be too foolish to reply that they are spending their money to please themselves and not you. In the long run you will have pretty much your own way, and quite as much as most people have in this world. You may be inclined to answer, "Why, do you suppose that we do design anything that we don't think will look as well as possible?" Yes, I do. I should be sorry to think that any man worthy to be called an architect himself admires many of the designs he makes now. They are made to look striking, original, fashionable, to please the party that he cultivates, to contribute something to the ever talked of Victorian style; because he knows something very grand is expected, that his employer is rich and ostentatious, that he has such a sum to spend as he never had before and perhaps never will again; because he wants to try some particular effect, as doctors want to try new medicines or operations; because he knows that no decently quiet design will have any chance in a competition; because he believes in the doctrine first preached by a celebrated amateur who has sown the seed of many delusions, though fortunately a good deal of his seed takes no root, that architecture is distinguished from mere building by ornamentation, and that there cannot be too much of it if it is good, as of course he thinks his own will be; because he is afraid of criticism; and I dare say for sundry other reasons. A man may be influenced by all or any of these motives without being distinctly conscious of it; and by not one of them, we may be certain, were the old builders influenced. Of course, I do not pretend that the very best motives and the entire absence of the worst can make up for the want of either natural taste and genius or practical knowledge, which I said before are the only requisites for good designing. But the misfortune is that the possessors will not give them fair play, but allow the taste and judgment which they can apply well enough in writing about old buildings to be overridden or distorted by such considerations as those when they begin to design new ones. Nothing is more surprising to me in modern architecture than the contrast between some men's works in the literary and the architectural sense. I know by experience that any man who has the boldness to design on the simple principle that I have been suggesting must be prepared for all sorts of ignorant criticism in the early stages of his work; and yet I adhere to what I said twenty years ago, that a building which is going to look well looks well in every stage to those who have eyes to see and minds to understand: faults are never cured without eradication, though unfortunately it is never too late to introduce them and to spoil a building by its very top. But architects should look far more ahead than they do, and they will see in time that every really good thing is more and more appreciated, and every bad thing less, and will learn the value of its being said of them, as it is said pre-eminently of one, "Well, so and so may make mistakes in proportions and other things sometimes, but he never designs anything vulgar," which I end by saying does not mean "common," but makes a false pretence of being superior to what is common, whether in architecture or in habits and manners.

Yours truly,

33 Queen Anne Street, W., Jan. 5, 1875.

EDMUND BECKETT.

THE EDINBURGH IMPROVEMENT TRUST.

A MEETING of this Trust was held on Tuesday—the Lord Provost presiding.

Treasurer COLSTON moved that only one architect be appointed this year, and that it be remitted to the Works Committee to consider the question of remuneration and report. He said that last year, when a similar motion was made, it was urged that a good deal of work remained to be finished, and that, therefore, the two architects should be continued at the old salary for another twelve months. The latter proposal was carried by a very narrow majority, but it was the general understanding that one architect this year would be sufficient, and in that view he now asked the Trust to affirm the principle.

Mr. GOWANS moved that Messrs. Cousin & Lessels be employed for another year to carry out the works they had in hand. Both were employed on designs for new streets, and Mr. Cousin was in the midst of arrangements for acquiring property and performing other duties which rendered it almost impossible to sever the connection with him at present. Moreover, he did not see that they should save anything by dispensing with one of the architects. They only paid 600*l.* a year for the services of both, and that was a very miserable percentage on the value of the designs they furnished.

Mr. STEEL said the Trust architects only prepared elevations, and parties fencing ground had to employ other architects.

Mr. CHANSTON supported the motion, contending that the work remaining to be done could be easily carried out by one architect.

The Lord Provost had some doubt as to the judiciousness of making a change at present, and suggested that the movers of the motion and amendment might concur in remitting the whole matter to the Works Committee for report.

On a division the motion was carried by 1*l* votes against 5.

Treasurer COLSTON then proposed to move that Mr. Lessels be the architect of the Trust; but on the suggestion of the Lord Provost it was agreed in the first instance to remit to the Works Committee to consider as to the salary to be paid.

THE COLOSSEUM.

MR. STREET sends the following communication to the *Times* in reference to a letter from Mr. Forbes, which appeared in that journal on Dec. 30. Strange to say the same letter will be found in the *Architect* of Dec. 5, having been copied from a still earlier number of the *Times* :—

The account of the excavations recently made in the Colosseum, contained in Mr. Forbes' letter in the *Times* of December 30, appears to me to be in some respects so misleading that I venture to give what appears to me to be a more correct explanation of the results. Mr. Forbes treats the whole of the substructure of the arena as a comparatively modern addition to the original building erected upon the old paved floor, which remains some 20 ft. below what has hitherto appeared to be the ground line. If he had compared this substructure with that of the still almost perfect arena of the Amphitheatre at Pozzuoli, he would have been less likely to venture upon such a suggestion. The use of the building would involve the necessity of buildings, rooms, and passages under the floor of the arena, and when we see them all perfectly preserved, with all the necessary provisions for lighting, for ingress, and for drainage, at Pozzuoli, we might be sure that some similar arrangements must once have existed under the arena of the Colosseum, even if all traces of them had been destroyed.

Fortunately, the excavations already made show that the two buildings were arranged very much in the same way. Looking at the uncovered basement walls in the Colosseum from above, we find that the whole central portion of the arena was occupied with constructions which did not follow the oval lines of the amphitheatre, but were rectangular in plan. They present the appearance of three parallel canals of passages, surrounded by double walls, strengthened at short intervals by cross walls. Though these walls are too close to each other for use as passages they are all plastered, and it seems probable, therefore, that this cellular construction of walls, plastered on the face, was devised for the purpose of supporting the weight, and also preventing the escape, of water in the canals above them, whenever the arena was required for nautical combats. In the central passage or canal the masonry is built on a slope from the basement up to the floor of the arena, and at the bottom lies the wooden framework referred to by Mr. Forbes. This is not constructed as a floor would be, but is evidently a sliding way, up which vessels might have been pulled from below into the arena. Just in advance of the front seats in the arena a double row of recesses is constructed all round the basement.

Mr. J. H. Parker is of opinion that these recesses were used as cages for beasts, and this is the ordinary account of the corresponding recesses at Pozzuoli. The objection to the theory is that there seem to be no remains or marks in either case of any enclosures in front of these dens, and that it would be difficult, to say the least, to put wild beasts into places so inconvenient of access. The passages in front of them were probably lighted in the same way as at Pozzuoli, where a large number of square openings are left in the floor of the arena; these were fitted with frames let into stone related margins, and probably contained iron gratings which, when required, could be covered with boards. I am myself more inclined to think that two large chambers which exist right and left of the principal entrance to the basement were the commonly-used dens. The metal sockets in the floor described by Mr. Forbes would allow of the main supports for the front of the dens being firmly fixed, leaving a passage way in front, and allowing of the confined beasts being let loose into the arena without risk to the attendants. The arrangement is somewhat similar to that for the entrance of the bull into the Spanish arena, and the ascending way would have served for the beasts to reach the arena. In front of the double arcade of recesses or dens are visible pairs of large corbels of travertine at regular intervals. These formed the base of square chases formed in the walls for the admission, when required, of timber posts of great strength. These would have formed the supports for a palisading a few feet from the front seats of the arena, leaving an unoccupied alley or passage way between the arena and the spectators. How necessary such a contrivance is I need hardly point out to any one who has ever seen a bull-fight.

At Pozzuoli precisely the same provision is made by square holes through the vaults of the substructure, which left a space of 6 ft. clear of the front seats. Here the arrangement is more obvious to an ordinary visitor, but once pointed out every one may see plainly that it existed also at the Colosseum. In both these theatres there are numbers of chases cut in the walls which are so cut that pieces of cross timber might be inserted, wedged tightly in, and removed at pleasure. In the Colosseum many of these look at first as though they had been additions made for the sake of gaining additional support for the walls. But seeing that precisely the same kind of groove is made at regular intervals in the central canal at Pozzuoli, I come to the conclusion that they show that the provision for water displays was not of a permanent kind, and that the cisterns, tanks, or canals were constructed mainly of wood, while no doubt when not in use they were covered over with wooden floors. It would have been quite impossible to flood the whole arena without flooding at the same time all the rooms and passages below its level all round the building, and at the same time stopping all means of access to the arena for combatants. And it is quite clear that a building used at different times for various kinds of displays would be likely to show, as the substructure of the Colosseum does, many marks of removable constructions, such as those on which I have remarked.

I will only add, in conclusion, that if Mr. Forbes' suggestion as to the original level of the arena having been some 20 ft. lower than has hitherto been supposed were correct, either the arena must have been reduced to the smallest possible dimensions or it would have been such a deeply-sunk pit that none of the spectators except those in the front row would have seen anything of the performances which went on in it. The suggestion carries its own refutation on its face therefore.

The interest of the subject must be my excuse for troubling you at such length, and I conclude by expressing my hope that the Italian Government will continue the work till, at any rate, two-thirds of the whole arena shall have been thoroughly cleared out.

SANITARY CONFERENCE AT BIRMINGHAM: INDUSTRIAL DWELLINGS.

A CONFERENCE on Sanitary Reform, convened by the Mayor of Birmingham, Mr. JOHN CHAMBERLAIN, was held in the Exchange Assembly Rooms on the 14th inst., and was largely attended.

The Mayor, after thanking the eight or nine hundred ladies and gentlemen who had accepted his invitation, and expressing his pleasure at the representative character of the conference, said he hoped the present meeting would be considered purely as a preliminary and introductory one, and that it would lead the way to still more important gatherings in other of our large towns. His object in convening the meeting was to endeavour to create a sound public opinion in reference to questions of sanitary importance. While such strong impressions were made by railway accidents and shipping disasters, people appeared to think that nothing could be done to lessen cases of preventable disease, which carried off hundreds of thousands of persons, because such cases had always occurred and were constantly occurring among them. An exceptional incident, like the great pestilence which had devastated the town of Over Darwen, drew public attention to the matter; but as soon as the cause was removed they fell back into their original apathy, and, except in the district particularly in question, nothing was done to prevent the recurrence of similar disasters. And yet, he ventured to say, the mortality in the case of Over Darwen was a mere accident, and that there were hundreds of sanitary districts in this country in which precisely the same results might arise at any moment through defective sanitary arrangements.

Dr. HILL, the Medical Officer of Health for Birmingham, read a Paper on the sanitary condition of the town. In the course of it he referred in terms of condemnation to the construction of back to back houses in the town, and of windows which do not open. The question was one of particular interest to the town at the present time, because, in the first place, back to back buildings were exceedingly common, and threatened to lead to very dangerous and almost irremediable evil, and because, in the second place, a proposition was made in the Town Council to prohibit in the new bye-laws the erection of such houses, and which was met by a considerable amount of opposition. A bye-law of the kind in question was in operation in Liverpool, Manchester, Salford, Birkenhead, and other towns, and even in Balsall Heath, just beyond the confines of the borough of Birmingham. It was difficult at first sight to see why a bye-law considered necessary and found practicable in other large towns, and even in part of their own, should be unnecessary and undesirable in that part of it embraced by the borough. His own opinion was that a provision of the kind would exert a most momentous influence upon the future health of the town, and that it was absolutely indispensable to sanitary welfare.

Dr. DAVIES, Medical Officer of Health of the Urban Sanitary Authority of Bristol, read the next Paper. Towards the conclusion of it he said:—I shall finally mention what may well be considered the most important sanitary requirement of a large town, viz., sufficient and proper house accommodation for the working classes. In this respect Bristol is, as far as I can find out, neither better nor worse than its neighbours; and I must confess that, in my opinion, house accommodation for working people at a convenient distance from their work is becoming less and less every year in Bristol. The removal of whole rows of cottages and courts for street improvement, for railway extension, and for the building of warehouses has lessened house accommodation in the city. Owing, as I believe, to the enforcement of good and proper bye-laws and the proper requirements of the sanitary authority, the class of builders who used to provide houses for the working classes have ceased to do so to a considerable extent. Private associations are attempting to supply the want, but I have serious doubts of their being able to do so to the extent required. I was glad to see the old houses, which were unfit for human habitation, demolished; but I regret that but few substitutes for them have as yet appeared. It is only by supplying the masses of the people with well ventilated and dry houses that we can produce any tangible effect on the mortality from that insidious destroyer of men and women in the prime of life, viz., phthisis, or tubercle of the lungs. Believing as I do that this disease has an infectiousness of its own, I consider that over-crowding, by which people are made to breathe and swallow each other, is the principal means of spreading it. As house accommodation is to be made a special subject, I will say only one word more on this head by way of caution. Whatever is resolved on, let the Scotch system of "flats," with common stairs, be religiously avoided. When "maculated" (spotted) typhus prevailed in Bristol in the year 1865, I found that whenever a case of this disease appeared on the ground-floor of a house inhabited by several families, it soon affected every family in the house. Isolation into distinct families in separate houses is a necessary condition of health for man in a sanitary, moral, and national sense. Staircases, privies, lobbies, passages in common soon become so many nuisances. An error in this respect in the original building of the great city of Glasgow has baffled the efforts of one of the most intelligent sanitary committees and one of the best of medical officers to reduce the rate of mortality in that city. What that rate would have become without the action of the Sanitary Board no man can calculate. Glasgow stands prominently forward as a warning to all advocates of the Scotch system of flats, or houses in common, without proper isolation.

Dr. GOLDIE read a Paper on the sanitary condition of Leeds. He said: I would at once pass on to the structural character of Leeds, and I must say that it has made great improvement in its architecture, and there is still much room for it. I don't know any greater difficulty I have to contend with than the dearth of habitable houses for the artisan classes. Last year I closed 96 cellar dwellings, whose denizens, for the most part, had never, for many months, beheld the unsullied light of heaven, nor breathed uncontaminated air, and whose morals had suffered from the usual baneful influences of over-crowding. From the total want of accommodation for such people, my powers have been stultified for the last twelve months; but I am happy to state that a most popular feeling is aroused in the town, whereby building schemes are being set on foot. Coupled with the

powers now vested in corporations by "The Artisans' Dwelling Act, 1874," I am led to hope for better things. I am of opinion that the sanitary authorities or corporations entitled to the privileges of this Act would do well to avail themselves of it at once. It would ameliorate a growing want, and tend to reduce the heavy burden of local taxation. But the Leeds sanitary authorities have not been idle. Within the past few years they have condemned 674 houses as unfit for human habitation and demolished them, 23 courts and yards have been opened up and abolished; most of the land now opened out will be used for a fine spacious public market, thereby insuring a more complete ventilation of those densely populated parts; 10,000 houses have been disinfected; 41,921 dirty houses limewashed. To show the want of houses in Leeds I may state that during the last twelve months the number of overcrowded houses was 401, or nearly half the number reported during the eight years previous. We still have in Leeds 478 cellars occupied. Before I leave the subject of overcrowding, I would state that it is my intention, as soon as possible, to test the power I think we possess in the Public Health Act, 1866, s. 19, sub-sec. 1, where it defines a nuisance to mean or include "any house or part of a house so overcrowded as to be dangerous to the health of the inmates." I mention this, as I think it may do away with the difficulty of dealing with overcrowded houses not containing "more than one family."

Mr. DRAXIN, Borough Surveyor of Liverpool, read a Paper which had been prepared by Dr. French. It stated that the evil of overcrowding with houses the superficial area had its origin in Liverpool and other Lancashire towns so late as the latter half of the eighteenth century. The census returns showed that the increase of the population of Liverpool had been six-fold between the years 1801 and 1871, or had increased from about 81,600 to 493,346. The housing of the workmen and labourer classes of this suddenly-increasing population was neither regulated by building laws nor cared for by municipal responsibility, but was left to the private and uncontrolled enterprise of small capitalists, influenced solely by personal considerations of gain, and without any care for the health of the people or the future benefit of the community. Of the many inconveniences which spring from such ill-directed enterprise, the most important were the erection of courts and the construction of cellar dwellings, both of which were the chief physical causes of the great sickness and mortality of the town. In Liverpool the closing of houses unfit for human habitation led to their speedy improvement. The real impediment, however, to the beneficial working of the Liverpool Act, and, indeed, of all similar efforts to open out crowded districts, and improve by structural changes the present condition of the houses of the labouring classes in large towns, would be found in the imperfect provisions of the Local Government Act, 1858. The 34th section of the Act empowers Local Boards to make bye-laws with respect to the sufficiency of space around buildings; but it had been held that such bye-laws could not apply to additions to, or extensions of, buildings erected before the passing of the Act, or before its adoption by a Local Board or a Council of a borough. The consequence was, that not only were owners permitted to absorb by way of additions the very small area which had been left around houses built before 1858, or in Liverpool before 1864, but they were induced to do so by the enhanced value given to land by the requirements of the bye-law. Localities which were once tolerably open, as being the residences of the gentry, were now likely to become overcrowded by reason of such additions. It was sufficient to escape the bye-law if the addition had the slightest communication with the existing house, although it be clearly the intention thereby to accommodate several families, or in the form of a large subdivided tenement, to create an evil as great, if not greater, than that produced by courts. Again, the 34th section of the Act gave, as was perhaps to a certain degree unavoidably necessary, great latitude to local authorities. The consequence was that many, indeed almost all the boroughs, had chosen to frame their bye-laws solely for inhabited houses. Other premises were permitted to be erected anywhere, or anyhow, as regarded situation, provided only they did not trespass on the space required by the law for newly-erected houses. It was thus that even in new districts of the town buildings having no separate area belonging to them might be so placed as to injure the healthiness of blocks of houses, while in old districts owners were permitted to place stables, shippens, sheds, and workshops on every open space in existing yards. Hence it was evident that a law like that of the Liverpool Act, which secured by the demolition of houses the improvements of courts in one district, might really, like the 34th section of the 1858 Act, encourage owners to overcrowd areas in adjoining districts. What was wanted before local authorities spent money and attempted to improve the sanitary condition of the houses of the labouring class was—1st, that bye-laws for space apply to additions of houses built before 1858; 2ndly, that it be compulsory on local authorities to frame bye-laws for space around all newly-erected buildings without reference to whether such buildings were to be used for habitation or not.

Mr. SCHOFIELD read a Paper that had been prepared by Dr. Leigh, of Manchester, on the dry system of sewage more generally carried out in Manchester, and the means taken to sewer the town without contaminating the water running through the district.

Dr. B. FOSTER (Birmingham) then read a tabular statement giving the rate of mortality from all causes and certain special causes for twenty years (1851 to 1870) in Birmingham and six other large towns, as compared with the rate of mortality in the country generally, and in twelve healthy rural districts. In each instance, except that of Bristol, the registration district was limited to the worst part of the town. The table showed that Birmingham was higher in the health scale than Liverpool, Manchester, Leeds, and Sheffield, but the death-rate was greater than that of London, and exceeded that of the whole country by about four per 1,000. The diarrhoea death-rate was twice as bad as the average of the whole country, and Birmingham was the worst great town in England as regarded diphtheria, the fatality of which had increased five-fold in the last ten years. Diarrhoea and diphtheria were eminently preventable, as they were caused by bad drainage and impure water. The obvious remedies were two—the abolition of the midden system and of the surface wells.

A discussion ensued, in which the Mayors of Carlisle, Portsmouth, and Dudley took part, explaining the sanitary defects of their respective towns and the remedies which were being adopted.

At the evening sitting the Mayor read a Paper that had been written by Mr. Martin, architect, of Birmingham. After describing the present dwellings inhabited by the working classes, and pointing out their failure to provide comfortable, healthful homes, and the great inconveniences they presented, he proceeded:—All improvements in any of these classes of dwellings involve the raising of rents, and it is therefore necessary in considering how these buildings may be improved to be careful to recommend such changes only as may seem absolutely necessary for the promotion of decency and the preservation of good health.

As to arrangement of houses upon sites. It is absolutely essential that the materials used in building should be economised as much as possible, therefore it is a necessity that these houses should be built in groups. These groups should be planned so as to secure the free access of sunlight and air to the blocks, and therefore should be built in parallel terraces, at right angles to the road forming front of site, and the space between the blocks should be open through the entire length of the terrace. Economy of cost is also promoted by this arrangement, as the cost of road and street making is lessened by the terraces running from front to back of the land, and continuously from street to street. Ready access is also given to the front and back of each house in these terraces, by means of the roads running between the parallel blocks. The front and back roads would alternate, and the front would probably be laid out in little gardens, and the back would contain the privies and ashpits.

The lowest-rented houses now existing in the borough are called "single houses," and are now built back to back; in these no thorough ventilation is possible, nor can any real improvement in this class of house be effected. If not built back to back their cost will be increased, and a single house (that is, having only one room on the ground floor) open on two sides would probably endanger the health of its inmates by exposure to cold, as it is now endangered by absence of ventilation. Improvement to this class means their abolition, and therefore no suggestions on this head are here given. The average rental of these houses is three shillings per week, and it appears to be impossible to provide the requisites of a house for this sum. Yet the proposals following do not attempt greatly to increase this rental, and the plan herewith exhibited shows what it is thought may be provided for 3s. 6d. per week.

Each house contains on the ground floor a living room, 12 feet 6 inches by 11 feet 6 inches; a scullery or back kitchen, 8 feet 6 inches by 8 feet 6 inches (in which are provided a fire-place, washing copper, and sink), a small pantry, a coal place under the stairs, and a staircase leading to the upper floor, which contains two bed rooms and a linen closet. A separate privy with cinder-sifter and ashes pit is provided to each house, and to each house a small garden in front. The water supply it is proposed to obtain from the waterworks company, and to have a distinct supply to every house, with a tap over each sink. No drain would be permitted to enter the house. A main drain would be carried down the centre of the space between the backs of the houses, constructed of glazed stoneware socket pipes, well jointed. A connecting drain from the outside of each house would convey the waste water from the sink to the main drain, but the pipe from the sink would empty itself on to a grating outside the wall, which grating would form the top of a trap to the end of the branch drain.

For a rental of 5s. per week a house may be provided built as herewith shown:—On the ground floor there is an entrance lobby 4 ft. by 3 ft., a staircase, a living room 13 ft. by 11 ft. 8 in., a scullery or kitchen 11 ft. 4 in. by 10 ft. 6 in., a pantry 3 ft. 6 in. by 7 ft. 3 in., and a closet 3 ft. 6 in. square. The front living room has a projecting window, which enlarges the room and gives space for a few plants or flowers. The scullery contains cooking grate, washing copper, and a sink. The scullery opens on to a walled-in private yard, on the side of which are placed a coal place, a privy, and an ash pit, with cinder-sifter. The water supply and drainage would be similar to that described for the smaller house. On the chamber floor there are three bed-rooms, all having separate entrances from the landing; one room 14 ft. 6 in. by 10 ft.; one 11 ft. 4 in. by 7 ft. 4 in.; and the third 11 ft. 4 in. by 6 ft. 7 in.; each bed-room has a fire-place and sash window. There is also a closet at the end of the landing, 4 ft. by 2 ft. 8 in.

Between these two rentals of 3s. 6d. and 5s. per week, a medium class of house might be constructed at any price between these two sums. No cellars are proposed to be provided to any of these houses. Cellars are generally used for other purposes than those intended by the builder, and become not only a nuisance, but are dangerous to health. Fowls are allowed to roost in them, and dogs, rabbits, and other domestic pets are kept there; and the cellar is used as a general receptacle for rubbish of all kinds. To sum up, with regard to the essential requisites for these houses, it appears that for the rentals above named the following may, at least, be obtained:—Possibility of adequate ventilation. Privacy of washing. Separate privies. Complete separation of bed-rooms, and fire-places to each bed-room. Constant supply of water. Good drainage, and isolation of houses from town sewage gas.

With regard to the calculation of cost, on which the rental is based, it is evident that local circumstances and considerations will affect these calculations to some extent. But the following figures may be relied upon as not being far on either side from the facts of the case. First, as to the house at 3s. 6d. per week, or 9l. 2s. per annum:—Ground rent (say), 1l. 4s.; six per cent. on the cost of building (say 100l.), 6l.; rates, 10s.; water, 4s.; repairs and voids, 1l. 2s.; insurance, 2s.—9l. 2s. Then as to the house at 5s. per week, or 13l. per annum:—Ground rent, 1l. 12s.; six per cent. on cost of house (say 140l.), 8l. 8s.; rates, 16s.; water, 5s.; repairs and voids, 1l. 15s.; insurance, 2s. 6d.—12l. 18s. 6d.

Sir SYDNEY H. WATERLOW next read a Paper "On the Dwellings of the Poor." Having alluded to the interest he had always taken in the subject,

he said he was gratified to find that the work done in London had stimulated the authorities of the large provincial towns to look to the condition of the dwellings of the working classes, with a view to the immediate reconstruction of those unfit for human habitation. As some evidence of what could be done by a private company, he gave a short history of the success which had attended the society for the erection of working men's dwellings, over which he had presided for many years. That company, which had expended about 300,000l. on the erection of nearly 26,000 family tenements, providing accommodation for about 8,000 persons, was committed to an expenditure of another 100,000l. The shares commanded a ready sale, and the prospects of the society were encouraging in every respect. This proved they had not laboured in vain, and they might consider themselves working in the right direction to provide some remedy for one of the great social evils of the present age. The public mind was now fully aroused to the great importance of the question, the Government were prepared to take action, and it was clearly their duty to give the Home Secretary all the external support they could.

Mr. BAILIE MORRISON read a paper on the high rate of mortality existing at Glasgow, and which, it was urged, arose, first, from the fact that Glasgow was a labouring community where nine-tenths of the population lived in houses of one, two, or three apartments; secondly, from the impurity of the atmosphere, arising from public works, &c.; thirdly, from the density and overcrowding of the population; and, fourthly, from the large infant mortality, consequent, in all probability, on the neglect, vice, or ignorance of the parents. On the passing of an Act of Parliament in 1866, the work of purchasing property to the extent of upwards of 10,000 houses for demolition was commenced; the operations were placed in the hands of a committee of the Town Council; and at the present time the Glasgow rate-payers expended something like 40,000l. per annum in their attempts to ameliorate the condition of the people and lessen the high rate of mortality.

Sir CHARLES REED (Chairman of the London School Board) said they were on the eve of a great national movement in connection with this question. They understood unmistakably that they had a Government prepared to look closely to the interests of the people in reference specially to the habitations of the poor.

Mr. WALTON read a Paper prepared by Mr. William Swindlehurst (Secretary of the Artisans', Labourers', and General Dwellings Company, Limited), which enumerated the works carried on by that Company in the opening out of crowded districts in London, Liverpool, Gosport, and other towns, and the improvement which had been observable in the mortality returns issued in connection with these "estates."

Dr. ACLAND, F.R.S., of Oxford, delivered an address, in which he said that this was neither an educational question nor a physical question, nor a religious or medical question, but a profoundly human question—a question not of the past, nor the present, but of the future life and character of this free nation. That was one of the conclusions which, as a practical man, he had come to, and our population cannot be hereafter what the British have heretofore ever been if our working classes continue to dwell as they have for the last quarter of a century been compelled to dwell. The meeting would tell the present Conservative Government, which was pledged to the subject, that we must begin this work with whatever aid the Government of the country can bring to bear upon it.

After some further discussion, a vote of thanks to the visitors was moved by Mr. Dixon, M.P., and acknowledged by Sir Sydney Waterlow.

MANCHESTER ACADEMY OF FINE ARTS.

THE annual meeting of the members of this Academy was held on Tuesday evening in the Manchester Royal Institution, Mosley Street; Mr. W. R. Keeling, president, in the chair.

The Hon. SECRETARY (Mr. H. H. Hadfield) read the annual report of the Council, in which they stated that they had again the satisfaction of saying that they believed that the institution was increasing in knowledge and power, and steadily working out the end which its first promoters had in view. Even the walls at the Royal Academy Exhibition and in other metropolitan art institutes attested this fact. The Academy's last exhibition, which closed on March 14, was generally considered by the press and public to have been far in advance of all its predecessors. It was well attended, and the sales realised upwards of 8000l. The Academy at present includes eight honorary and thirty-nine ordinary members, nine associates, and seventeen students, in addition to nine lady exhibitors, who had recently been elected. On March 14 last an application was received, signed on behalf of the female artists of Manchester, for admission to the full privileges of the society, and after the subject had been debated at several meetings, at one of which representatives of the lady artists were present, it was resolved "that ladies elected by the Council be admitted as exhibitors, with the addition of one night's separate study each week, such class to be under the supervision of the Academy Council." A letter had been received from Miss Julia Robinson, on behalf of the lady artists, thanking the Council for the great benefit thus conferred upon them. Notwithstanding the increased expense of the last conversations, the funds of the Academy were in a most satisfactory state, there being a small balance in hand. The report was adopted. Mr. Keeling was re-elected president, Mr. Robert Crosier treasurer, and Mr. H. H. Hadfield honorary secretary. Mr. Ward Hayes was elected literary secretary, the gentleman hitherto filling that office being no longer able to devote sufficient time to the performance of its duties. A vote of thanks was passed to the Council of the Manchester Royal Institution for the assistance afforded by them to the Academy, and the proceedings terminated with a vote of thanks to the chairman.

The Council of the Manchester Athenaeum have arranged for an exhibition of art treasures, which is to remain open for a few days only. The works promised by collectors are of great interest.

ANCIENT AND MODERN ART.

ON Monday evening, the first of a series of four lectures on "Ancient and Modern Art" was delivered in the Corporation Galleries, Glasgow, by Mr. William Simpson, F.R.G.S. (special correspondent of the *Illustrated London News*). These lectures have been arranged for by the trustees of Haldane's Academy of the Fine Arts. Sir James Watson presided.

Mr. Simpson, having referred to the antiquity of art, which he characterised as an instinct in human nature as old as the race itself, proceeded to touch upon the different phases of ancient Egyptian art from the period in which hieroglyphics were in vogue downwards, remarking that between painting and sculpture that nation, of all the ancient nations, had left us perhaps the best record of their history. In this connection he drew attention to a matter which was greatly overlooked in these times, that few of our public buildings and many of our public statues were entirely without any inscription to indicate their nature or whom they represented. Two instances of that kind were to be found in Glasgow, viz., the Royal Exchange and the Wellington equestrian statue, Queen Street, there being nothing on the latter to tell the stranger in whose honour it had been raised. He then noticed the strange fact of the entire absence of hieroglyphics on the pyramids of Egypt and of their superabundance in the temples. That he attributed to the circumstance that in olden times priestly influence controlled everything, and that the artist had to draw his figures according to ecclesiastical formulae, the colours he used being determined by the same authority. Hence it was that a stiffness was always to be found in Egyptian sculpture, giving the statuary of that nation somewhat of the appearance of soldiers under drill. To many, therefore, these art efforts appeared quaint, but he felt that investigation would prove that the works were of the highest order, those in granite and porphyry being finished in a most beautiful style.

Mr. Simpson next proceeded to a consideration of the art of the Bible. It was a remarkable fact, he observed, that in the first five books there was an almost total absence of art, and this, he thought, in great measure was due to the fact that it had become a means of expressing some of the worst forms of idolatry. The consequence was that in various passages they had "pictures and images" condemned, and instructions given for their destruction, clearly indicating that art had been cultivated, but that it had been basely employed, and that the subjects had not been what they ought to have been. In Arabia, Mahomed, a long time after Moses, began the same legislation; and his followers, even to the present day, would scarcely look at a statue or a picture; and the like idea was found to have been one of the features of the Reformation era. He also remarked that there was not the slightest reference to art to be found in the book of Job—a most marvellous circumstance, he thought. Passing on, he proceeded to consider Grecian art, which had shed its influence throughout the globe. Greek art, unlike that of the Jews, had never been interrupted; and as Italy was dominant over Europe in the matter of art, so was Greece over the world. The lecturer afterwards spoke of Greek painting, which he imagined might be regarded as enjoying a high reputation. Every branch of art was carried on to an elevated pitch by them, and its influence could be clearly traced and followed down to our own day. A better illustration of that could not be had than in the new style of jewellery of the present time. The Greeks executed the most beautiful designs in that branch which it was possible to conceive. In conclusion, Mr. Simpson referred to the influence of the development of the Greek art to be found in the north-western districts of India, imparting to his auditors on that head a vast amount of valuable, interesting, and in some points amusing information.

On the motion of Dr. BLACKIE, a hearty vote of thanks was awarded Mr. Simpson for his lecture.

THE PROPOSED DOCK AND WAREHOUSES AT LIMEHOUSE.

THE *Aberdeen Free Press* says that the Aberdeen Steam Navigation Company have, up to the present time, been in the possession of a wharf on the Thames, not only totally insufficient for the requirements of the Company's business, but in such a situation as to cause no small amount of annoyance to passengers either going or coming from the steamers.

Some time ago, a large piece of ground in the Limehouse district, about an acre and a quarter in extent, adjoining the West India Dock Company's premises, and bounded on the north side by Emmet Street, came into the market, and, at a cost of 12,000*l.*, was purchased by the Aberdeen Steam Company. This piece of ground is about a mile farther down the river than the present wharf, but is so situated that access to the city both for passengers and traffic will be easier, and the steamer may be reached in less than a fourth of the time at present required.

It has been resolved to construct a self-contained dock, 255 feet in length and 55 in width, to enter which the vessel will have to veer gradually round at right angles to the river, and, when berthed, will lie with her bow looking across the water. The steamer will thus be entirely removed from the traffic of the Thames; and, according to the testimony of the pilots, it will be a simple and easy task to get her quickly and safely moored, to assist in which a powerful hydraulic capstan will be erected at the end of the dock. The formation of the dock will prove to be a work of no small magnitude, when the difficulty of getting good foundations at the river side is considered. In order to provide as far as possible against any risk of the foundations giving way, an elaborate system of concrete building will be adopted. The excavations for the dock walls will go thirty feet down until the clay bed is reached, upon which will be set on their ends two rows of huge cylinders of concrete, sunk in a similar manner to the pillars of the Tay Bridge, at present in course of erection. After being bound together they will be filled inside and around with liquid concrete. These blocks will be about 7½ feet in diameter, the two rows of which will make the wall about fifteen feet thick. This mode of

building will be continued 15 feet from the bottom, and immediately above will be laid with large square blocks about 3 feet thick, binding the whole together in one solid mass. The rest of the wall will then be formed of concrete *in situ*. Besides the interior of the dock, it is intended to surround other portions of the ground with such walls, so far as there is the possibility of being affected by the river. We believe this will be the first experiment in constructing a dock with such walls made in the neighbourhood of the Thames, although we understand the same plan has been adopted with success on the banks of the Clyde. The process is no doubt expensive, but it is thorough, and there is little fear that walls so constructed will prove lasting and durable, and meet the expectations formed of them.

Along the entire length of one side of the dock it is proposed to build spacious and commodious warehouses, exceeding in size the accommodation which the Company presently possess at Wapping. The main building will be over 260 feet in length, and an average breadth of 50 feet; and, in addition to this, there will be connected a block about 65 feet square, part of which will front the river.

We have already mentioned that the purchase price of the site was 12,000*l.*, and it will give some idea of the extent of this undertaking when we state that the probable cost of the dock and warehouses which are at present to be erected will be 40,000*l.*, making a total expenditure of about 50,000*l.* Working plans are, we understand, in course of preparation, and operations will be begun in a few weeks. About nine months will be required to make the excavations for the dock and foundations, but once these are successfully accomplished, the erection of the warehouses will not be a work of long duration, as the whole of their walls will be built of brick. Mr. George Judge, jun., Frederick Place, Gray's Inn Road, London, is architect, and Mr. James A. McConnochie, engineer for the Surrey Commercial Docks, has been selected as engineer.

TENDERS FOR ARCHITECT'S WORK.

THE Sheffield Board of Guardians, being about to erect a new workhouse applied to the various local architects for tenders stating the rate at which plans would be prepared and the construction of the works superintended.

At the meeting of the Board on the 13th inst. the following tenders were submitted:—

Messrs. Innocent & Brown tendered for the various departments of architect's work, including all attendances upon the guardians and poor-law officers here and in London (including expenses), at 5 per cent. upon the outlay. They mentioned certain specifications, &c., for School Board school accommodation, which they estimated to cost 72,413*l.*, but when completely finished the work entailed an outlay of 72,208*l.* They had also prepared plans for fifteen school buildings, and of these not one had to be altered in any respect to meet the requirements of the Education Department.

Messrs. D. Kershaw & Son, 6, Alliance Chambers, George Street, offered to do ordinary architect's work for a commission of 2½ per cent., and the additional superintendence generally done by clerk of works, 2½ per cent. The South Yorkshire Asylum, Wadsley Park, had been erected entirely under the superintendence of their senior partner.

Mr. G. W. Wilson, North George Street, tendered for 4½ per cent. commission upon the entire work.

Messrs. Scargill & Clark applied for it at 3½ per cent. on the expenditure.

Messrs. M. E. Hadfield & Son offered to do the work at 3 per cent. on the outlay. They had had thirty-five years' experience in various parts of the country.

Mr. W. F. Hemsall asked 3 per cent. commission.

Messrs. Flockton & Abbott, 7, St. James's Street, would prepare plans, specifications, &c., and superintend the whole work at 2½ per cent. commission on the cost of the works.

Messrs. Wilson & Master, Bank Street, offered to undertake the plans and specification and superintend the work for 2½ per cent. commission, and if quantities were supplied they would require an additional 1½ per cent.

Mr. James Hall tendered for 2 per cent., which would not include taking of levels, &c.

Mr. E. M. Gibbs offered to prepare plans and specifications and superintend the work at 2 per cent., and would not undertake further work for 12 or 18 months.

Messrs. Hill & Swann asked 2 per cent. for plans and specifications and superintendence. They had erected two workhouses, and received several prizes in open competition for others.

Mr. Edward Wright offered to act as the architect, and for the whole of his services, with plans and the superintendence, asked 1½ per cent. on the total outlay.

Mr. E. J. Fay, 16, Montgomery Terrace, would undertake the whole of the work appertaining to an architect at the rate of 1½ per cent. commission.

Mr. J. D. Webster asked to enter upon the work at the fixed sum of 500*l.*

It was agreed to proceed with the choice of architects by marking the list till three or four remained. These were to be requested to attend the next meeting of the board.

The final result of the voting was as follows:—Messrs. Hill & Swann, 8; Mr. Hall, 6; Messrs. Flockton & Abbott, 5; Mr. Gibbs, 3. The final decision of the Board will be arrived at when they meet again.

ARCHITECTS AND POOR-LAW GUARDIANS.

AT the last meeting of the Halifax Board of Guardians, Mr. WHITAKER drew attention to the fact that Mr. Barber, architect for the alterations at the workhouse, had in two years, from January 13, 1873, to January 15, this year, been paid 934*l.* 11*s.* 7*d.* as commission, which, at five per cent., represented an outlay of 19,000*l.* on works. He should like to know from the Chairman of the Board of Works Committee if Mr. Barber's work was now completed and his services dispensed with?

Mr. MARVELL: They are now dispensed with.

Mr. WHITAKER said that in future, if they had any new works, it would be advisable to do as a private individual would do, and let these professional duties be contracted for just the same as they would let the other work be contracted for. He felt confident that this was a very extravagant sum as a commission, and in future, seeing they would probably be very shortly building new vagrant wards, it would be as well for them to test the professional gentlemen, and see what amount they would have to pay for these works being seen to.

The CHAIRMAN asked if Mr. Barber had superintended work to the amount of 19,000*l.*

Mr. MARVELL replied in the affirmative, and explained that the architect had 3 per cent. commission for scheme No. 2, 5 per cent. for all the other schemes, and 2½ per cent. for measuring up the work, that was, extras.

Mr. WHITAKER: It is a most extravagant sum.

Mr. HIRST: It is abominable.

Mr. WHITAKER said he was finding no fault with the architect; of course he had a right to get as much as he could, but this was a question which ought to be seriously looked into. He did not know what was paid to Mr. Barber before January 13, 1873. It was only, however, to the question of the amount of commission to which he had drawn their attention.

LEGAL.

Court of Session, Edinburgh.—January 8.

DAVID CLOW & CO. v. ANDREW M'INTYRE & SON.

This was a reclaiming note against the judgment of the Lord Ordinary (Mackenzie) in an action for payment of 63*l.* 2*s.* 1½*d.*, at the instance of the respondents, who are brickmakers and builders in Glasgow, against the appellants, who are joiners and builders there. The pursuers rebuilt a gable and walls which they had erected for the defenders, and which were blown down on December 16, 1873—ten days after the work had been put up, as the pursuers averred, in a most substantial and workmanlike manner. The sum sued for was in respect of the work of rebuilding. Payment was resisted on the ground that the work had never been taken off the pursuers' hands, and had been at their risk when it was blown down, and they were thus liable to rebuild it. The defenders also pleaded that the fall was the result of defective construction. After hearing the evidence in the case, the Lord Ordinary gave decree in terms of the conclusions of the summons, with expenses, holding that the first construction of the building had been in accordance with contract, and that there had not been proved any usage or practice of trade that brickwork was at the risk of the bricklayer until the whole work contracted for was completed, measured, and paid for. He thought that the brickwork accreted to the employer as it progressed, but, if not, it did so upon each part of it being completed and taken possession of by the employer, through his other workmen taking possession of the previous work, and adding their work thereto, and the work was therefore at the employer's risk.

On Friday their Lordships by a majority—Lord Deas dissenting—adhered, with further expenses.

NEW BUILDINGS AND RESTORATIONS.

Presbyterian Church, Singleton Brook, Manchester.—The foundation stone of this church was laid on September 10, 1873, by the Hon. George Stuart, of Philadelphia, and on Sunday last the building was opened. It will accommodate 665 adults. The style is Early Gothic. The internal length is 90 feet, the width across nave and aisles is 45 feet, and across transepts 64 feet. The columns between nave and aisles are of cast iron. The spire is 121 feet high. At the rear are the school buildings, containing on the upper floor a large lecture hall, and on the ground floor sessions rooms, vestries, and caretaker's rooms. Messrs. Price & Linklater, of London and Manchester, are the architects, and Messrs. R. Neill and Sons the builders. The cost exceeds 7,000*l.*

Midland Counties Idiot Asylum, Knowle.—The erection of the first portion of this building has been completed. The institution is situated about half a mile from Knowle Station on one of the most elevated spots in Warwickshire. The building has a frontage of over 220 feet, and in order to avoid the danger of the patients falling down stairs, it is but two storeys high. There are two main entrances, which are temporary. The rooms are all large, well-ventilated, and heated with hot-water pipes. On the ground floor there is a spacious and lofty dining-room, 18 feet wide by 26 feet long. There are two very large day-rooms, 37 feet 6 inches by 19 feet 9 inches, in which the patients recreate themselves. Besides kitchens, sculleries, &c., there are several private sitting-rooms, 12 feet by 13. At the extremity of the building is the infirmary, fitted with every necessary appliance in the shape of earth-closets, bath-rooms, &c. On the first floor the rooms correspond with those on the ground floor, but dormitories take the place of day-rooms, and instead of sitting-rooms day-rooms are substituted. Messrs. Clark & Smallwood, of Henley-in-Arden, have carried out the work from the designs of Messrs. Mathews & Quilter, of London. About 6,000*l.* has been expended.

General

The Art Workmen's Evening Drawing and Modelling Classes in connection with the Royal Architectural Museum are now in full work. At the Museum there are also now being exhibited the drawings and models which have been sent in for the prizes offered by the Goldsmiths' Company for designs for plate.

Mr. Ford Madox Brown on Tuesday delivered his lecture on "The Latest Phase of Painting" at the Edinburgh Philosophical Institution.

An International Exhibition is to be held in Geneva next year.

The Exhibition of the Birmingham Royal Society of Artists closed on Saturday last after a successful season. There were 37,260 visitors. 224 pictures were sold, amounting to 5,110*l.* 18*s.* 9*d.*

The proposed Exhibition in Paris of works of art from provincial galleries is likely to be abandoned. As yet but three towns—Orleans, Valenciennes, and Limoges—have responded to the application for loan of paintings.

The King of Bavaria has undertaken to defray the cost of ornamenting the *façade* of Richard Wagner's residence at Bayreuth with *agraffiti*. The historical painter Krauss has decorated it with a grand allegory, partly borrowed from the "Nibelungen Lied."

M. Lefuel, of the Academy of Fine Arts, has been appointed President of the Institute of France for 1875. M. Delaborde, of the Academy, has been named as Secretary.

Herr Unger has completed an etching of Hans Makart's large picture "Catherine Cornaro Receiving the Homage of the Venetians," which is now on view at the French Gallery, Pall Mall.

M. Courbet, of Commune notoriety, has now on view at No. 34 Berner Street three views in Switzerland.

Negotiations, it is said, are in progress with the Metropolitan Board of Works for the purchase of a site on the Thames Embankment on which to erect an opera-house.

The London Correspondent of the *Leeds Mercury* says he is informed, on excellent authority, that the sale of the whole of the Crown property in London and the neighbourhood is at present under the consideration of the Treasury. Very many complaints have been made of late years as to the management of this vast property, and these, it is believed, would be satisfied and removed by the transference of the various freeholders to ordinary proprietors.

The Congregational Hall in Farringdon Street, which was designed by Messrs. Tarring, was opened on Tuesday. It was stated that the total cost of the building and site was 72,000*l.*

The Committee of the Sub-Wealden Exploration have resolved to abandon the present boring after six ineffectual efforts to recover tools which have dropped down and obstructed the hole. The Diamond Boring Company having made a very favourable offer to commence again, a contract for the completion of 1,000 feet for 600*l.* has been agreed to, with a conditional promise to execute the second thousand feet for about 3,000*l.* additional.

The Works of the Royal Aquarium and Winter Garden at Westminster are expected to be commenced next week. The plans were prepared by Mr. A. Bedborough, architect.

The New Halls of the Edinburgh Museum of Science and Art were opened on the 14th inst. They are to be devoted to illustrations of architecture, engineering, and manufacturing processes. Reproductions of several of the works in the South Kensington Museum have been placed in them, and there is a collection of pottery which is very complete in examples of all styles. In one of the galleries there is a series of engravings of portraits.

Permission has been granted by the Heirs of Old Machar to place in the Aberdeen Cathedral the memorial window to the three native artists, Jameson, Dyce, and Philips.

Plans of the New Music Hall Buildings in Glasgow are being exhibited in the Royal Exchange. The Hall will cost about 80,000*l.* The plans were prepared by the late Mr. Cunningham, C.E., of Liverpool, and Mr. Campbell Douglas, of Glasgow.

A Committee of the Brighton Town Council has reported in favour of erecting the New School of Art in the Grand Parade at a cost of about 5,000*l.*

The Worcester Theatre, designed by Mr. C. J. Phipps, F.S.A., was opened on Monday. In arrangement it is similar to the Vaudeville, and will accommodate about 1,500 visitors.

The Official Report presented to the Local Government Board on the condition of Over Darwen states that there are 110 streets in the town (some of them constructed but three years ago) without sewers or drains, and with no attempt at paving; and that long rows of houses are drained into or across soft ground.

The Carpenters and Joiners of Sheffield have forwarded a circular to their employers, asking for an advance of ½*d.* per hour on their present wages, and a reduction in their working hours to 49½ hours per week. They also ask for a code to ensure uniformity of working.

The *Cologne Gazette* says that of the new bridges over the Rhine, designed to bind Alsace-Lorraine more materially with Baden and the rest of the German Empire, six have been already opened for traffic, while the remaining two, between Neufreistett and Gamsheim and between Greffern and Drusenheim, are nearly completed.

The Prussian Minister of Finance proposes to expend 26,000,000 marks in railway works and 25,000,000 in the construction of canals, as the State wishes to help in reviving those branches of industry which are at present depressed.

The Architect.

ONE MORE PANACEA FOR ARCHITECTURAL DISTRESS.



DERTAINLY it must be acknowledged that the condition of the British Architect is just now causing the gravest anxiety to a wide circle of his admirers and friends. "*L'homme malade*" of the world of art and science, he lives under the dismal feeling that every breath he draws is on sufferance. He sees around him half-a-dozen pairs of hungry eyes watching from hour to hour his progress towards dissolution, and half-a-dozen sets of hungry teeth, natural and artifi-

cial, waiting to devour him. Once upon a time it was the hyper-poetic RUSKIN, the plausible WISMAN, the prosaic and analytical FERDUSON, the learned WILLES and PARKER and WHARWELL, who more or less considerably, and in a manner critically, examined into his condition. The royal COLB, the courtly ATARON, the omniscient FINCE, have since then twisted him about a little less tenderly. More recently still, Homeric GLADSTONE, meditating the disruption of a party, has found time to gird at him; and an anonymous reviewer, big with an unintelligible *affatus*, has succeeded in bringing a perfect thunderstorm of debate about his case. It is under the influence of this last ingenious and prophetic teacher that a peculiar remedy for his manifold ailments has come to be developed. The working artisan is to be his master, and the true fine art of building is to spring forth into a rejuvenated existence from the brain of the man whose *summum bonum* is nine hours and ninepence. As an amendment upon this salutary suggestion, some one has proposed that it shall be the bucolic squire of the Midlands, as the unexpected representative of the antiquarian, who is to have the honour of being acknowledged the good genius of the architect; and even another alternative is offered in the doctrine that, if not the working man, at least the contractor shall be welcomed as the friend and counsellor of this poor artist who cannot stand alone. It was Sir EDMUND BECKETT who had the frankness to proclaim this last and boldest principle; and now from the same plain-speaking adviser we have one more panacea for architectural ills. "Whatever you do," says this candid friend—and, we admit, most experienced man of the world—"don't call yourself an artist."

Now it is not to be doubted that under the surface of every one of the many crotchets which, within the memory of the present generation, have in turn amused, perplexed, and bewildered that inconsiderate person the reader of architectural philosophy, a substratum of hard but honest truth has been discoverable. From Mr. RUSKIN's transcendental dreams to the wholly unintoxicated convictions of Mr. COLB, there has been something sensible at the bottom of every vision, and some reason for every growl. Even the almost incredible jest of the inspired working-man was founded upon the fact that he who is at once designer and executant, provided his skill be perfect as both, is superior at once to the designer who is dependent upon a subordinate for the execution of his work, and to the worker who must rely upon a master for the composition of his design. The very notion of an architect falling back upon his builder as a professional confidant is not without its scintilla of reason; and no doubt, if we could see it, there is something sensible even in the principle that it is our country squires who have instructed our architects in the proper scope of architectural art. None the less shall we find, if we seek for it, something like sound sense underlying Sir EDMUND BECKETT's latest doctrine that the architect should not call himself an artist. We may have to accept the conclusion, however, without the argument. "An artist," says he, "is a man or woman who executes." The appellation is in his opinion equally due to PHIDIAS and to the circumspect person who dresses one's dinner; to APOLLON and to the bland operator who dresses one's hair. "You are artists," therefore continues Sir EDMUND, "in respect of your drawings, but not in respect of the buildings made from them;" and "all the fine talking in the world cannot make anything better of an architect than a designer of buildings."

Not many weeks ago there was a discussion at the Institute of Architects on the intricate scientific subject of vaulting; and on that occasion Sir EDMUND BECKETT made, amongst other pungent remarks, this very remarkable statement. He had happened that afternoon to meet Mr. FERDUSON, who, as a voluminous writer on all architectural topics, ought apparently to understand vaulting as

well as any one. He had sounded Mr. FERDUSON, therefore, upon the point, asking him in fact what he ought to say on the subject. The reply was as authoritative as conclusive. "There is nothing," said the great writer, "to be said about it at all; if you want to build a vault, go and do it!" No doubt the meaning of this somewhat oracular observation lies, as Mr. DUNNAY would say, in the application of it; but certainly the wisdom here concealed may fairly be taken to be of a similar order to that which is contained in the proposition that the architect is not an artist but only a designer of buildings. That he is a designer of buildings let us cheerfully admit; but why he is not an artist let us still enquire. If you want to build a vault "go and do it" by all means, but why it should not be done upon some principle that can be intelligently talked about is not at once so manifest.

We thus arrive readily enough at the real issue between Sir EDMUND BECKETT and the architectural profession. It is not a mere question of words whether the architect is an artist or no. Neither is it a visionary task to seek to improve the art of designing, or the science of constructing, by critical precepts as distinguished from empirical experiments. The term "artist," we cannot help thinking, is by no means to be confined, or even to be properly applied at all, to the "man or woman who executes." The cook is never an artist. Neither is the perfumer; nor the shampoor; nor the gentleman who brushes your hair by machinery. If indeed the dancer or the singer is an artist and not a mere performer, it is by virtue of a certain vital individuality, or individual vitality of expression thrown into the dance or the song. This is design; and so it is that the cook designs not, but only compounds like the chemist, while the hair-dresser, occasionally claiming to design, is chiefly laughed at for his pains. "You are artists in respect of your drawings, but not in respect of the buildings made from them;" that is to say, the architect executes his drawings, but some one else executes his buildings; a perfectly idle distinction to those who actually know what it all turns upon. If this use of terms were to be accepted, who after all would the "artist" of a building be? Simply our good friend, again, the journeyman bricklayer—"the man who executes." Nay, more, upon the principle that he who blows the bellows has a hand in the music, PADDY himself, who hoists the bricks in a barrow by hauling on a rope, might none the less reasonably claim to be "the man who executes." How much easier it is to take words in their usual meaning, and to say that an artist is he who designs!

Nevertheless let us acknowledge the justice of the rebuke conveyed to a certain class of the architectural profession by the shrewd advice of the experienced lawyer and amateur, "Don't call yourself an artist." It may well remind us of the case of those youthful persons who are so fond of speaking of themselves as "gentlemen." When a self-admirer of this order affirms, for instance, his veracity by staking his honour as a gentleman, there are many who would much rather hear him use the humbler and more honest formula of pledging his word as a man. So also when an architect is found to be constantly asserting his personal authority as "an artist," Sir EDMUND BECKETT may well say, if that be his meaning, he would prefer to find him relying upon his skill under the more specific title of a designer of buildings. *Artist* may not be exactly a tipsy phrase, but *Designer of Buildings* is certainly a sober one. We have heard a great deal of late years, and Sir EDMUND BECKETT has evidently heard it too, of the distinction between the artist-architect and the surveyor; perhaps we have heard a great deal too much of it. It is not an unfair hint to offer that this may have had a good deal to do with the strange assaults that are now being made upon the artist-architect from so many quarters of the outer world. Sir EDMUND BECKETT does not put the matter before him unkindly when he suggests that he ought to cease calling himself an artist. But at the same time we cannot consent to regard architecture as being not an art, and the architect as being not an artist, in this true sense of the terms—that art is imaginative design and an artist an imaginative designer. Whether the imagination in any particular instance of architectural design may be of a high order, or whether in fact it may not be more or less palpably spurious, is matter of criticism; but upon the abstract definition there can be no difference of opinion except by playing upon words, and even the humblest efforts of building design are capable of being elevated from the sphere of the tradesman to that of the artist—we will even say from the province of the cook to that of the poet—by the simple means of introducing however little of that play of fancy which can light up a brown jug as effectually as a marble vase, and a porter's lodge therefore as characteristically as the gallery of a palace. The best advice to give to the young architect of the present day is a recommendation to be a little more modest—perhaps a good deal more modest—than certain of his seniors, but all the while to strive to be as genuinely ambitious of artistic excellence as the best of them; modest not merely in deportment but in professed purpose, and not merely in work but in study. The great heroes of history are not those who have begun by cultivating a practice of bombastic self-assertion; but rather the apparently more timid and weak, in whom the sense of power has been developed but slowly, and not unfrequently almost unconsciously. So also the great artist is often he who, seeming to fall in courage and confidence at the beginning, accomplishes without effort all the results of excellence in the end. Don't rely upon calling yourself an artist, but be one all the more.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

Henry VI.—Part I. (continued.)

WHEN we turn to the COSTUME of the first half of the reign of HENRY VI. (1422-1444), we find it at least consistent both with the play and with the time. That is to say, it was a glorious jumble—an elaborate effusion of confusion. Variety, oddness, and absolute ugliness so long as it was novel, were now the vogue. A general loudness of style prevailed, even to the rat-i-tat-tat, tat-tat-tat of the aristocratic footmen of the period, which was so immoderate that the monarch's voice was at last raised against this, even as when he turned away, crying, "Fie! fie! for shame" at the *décolleté* style of some young gentlewomen who danced before him. The dresses in this play exhibit the costume of all classes. We have—

1. Coronation robes of king, cardinal, and nobles.
2. State costume of king, queen, and nobles.
3. Every-day dress of the same, of their servitors, and of the commonalty.
4. Military costume of king, nobles, knights, and common soldiers in France as well as in England.

It is quite beyond the limits of this Paper to describe, or even to enumerate, the various shapes of the manifold garments of this period. For the stage we should always endeavour to select dresses which, while characteristic of the time, should, if possible, be the least *outré* in fashion. For these we have, happily, an enormous stock to choose from—monumental effigies; paintings on panel, wall, and glass; tapestry; and a host of manuscripts. In the hands, however, of a hasty director of costume this plenitude might turn out to be quite other than happy, for it is possible to attain to the outlandishly extravagant or absolutely ugly, and after all fail to secure the characteristic.

But whatever selection may be made, there are a few things connected with the costumes of this play which, I regret to say, are beyond the power of selection. *I regret to say it*, because, as sure as we point out something axiomatic or arbitrary in connection with the stage, so sure will the combined geniuses of manager, actor, costumier, and scene-painter rise superior to it. If, therefore, we assert that the livery of the house of Lancaster must be *white and blue*, and that of the house of York *murrey and blue*, there is every probability that at the next representation of Henry VI. Lancaster may be yellow and red, and York green and black. Nor is this an exaggeration of the prejudice against all external help and outside knowledge, which coils round and compresses the stage of to-day. Luckily for the future of their art there are some few actors sufficiently cultured to see the value of, and wise enough to accept, the contributions of artists and students outside the narrow and narrowing walls of their mimic world. But then the artists and students who are able to contribute are by no means as plentiful as blackberries in June, and of those who are able there are very few indeed who care sufficiently for the dramatic art *per se*—i.e. apart from all personal considerations—to take any serious trouble about it. After this short digression it may be rash, but I will nevertheless venture, to say that the royal arms were still quarterly France modern and England*; that the arched crown, although introduced during the reign of HENRY V., did not supersede altogether the earlier band form until towards the close of the reign of EDWARD IV.; and that there were three kinds of flags in use—the pennon, the banner or gonfanon, and the standard, and that they all were fastened under the lance head. The pennon was small, with a pointed or swallow-tailed end, was the *personal* ensign of the *bearer*, and the badge or heraldic device thereon was placed so as to appear in its proper position when the lance was in rest or horizontal. The banner was square and charged with the armorial bearings of the *owner*, placed so as to appear in proper position when the lance was vertical. The standard was a long—sometimes an exceedingly long—flag with pointed or swallow-tailed end generally divided *per fesse* into two colours powdered with badges or heraldic bearings, and used mainly for display.

While on the subject of heraldry, we may as well note the relationship of some of the chief characters in the play; and first in the list come the uncles of HENRY VI.

JOHN, Duke of Bedford, was the third son of HENRY IV., born in 1390, died in Paris September 14, 1435. (Some say Rouen.)

HUMPHREY, Duke of Gloucester, was the fourth son of HENRY IV., born in 1391, found dead February, 1447.

Here, then, we have two dukes of the blood royal of the house of Lancaster bearing of course the royal arms, but with this difference—JOHN bears them with a label (of five points) impaling Brittany and France. HUMPHREY bears them *within a bordure argent*.

The BEAUFORTS, as every one knows, were the illegitimate children of JOHN OF GAUNT or GHEHT by KATHERINE SWINFORD. The accident was, however, compensated so far as human power could go—(1) by letters patent of RICHARD II., (2) by act of Parliament, and (3) a papal decree. We have two of these children in the play,

HENRY, the second son (Cardinal-Bishop and Lord Chancellor), and THOMAS, the third son, K.G., Duke of Exeter and Earl of Dorset. After the Act of Parliament was passed, HENRY DE BRAUFORT bore the royal arms *within a bordure componée azure and argent, a crescent of the last for secondary difference*. THOMAS DE BRAUFORT had his arms twice changed, but at the period of the play (1422-1444) he bore the royal shield *within a bordure componée argent and of France*. Their nephew, JOHN, Earl of Somerset, bears the same arms *within a bordure componée argent and azure with a label charged over all*; whilst the device common to all was the portcullis, which we usually associate with the TUDORS. Space will not allow of my going on further with these heraldic details, and I have noted these differences on the one royal shield chiefly to show the nature of the work that should be done when a revival of an historical play is attempted.

The coronation robes for HENRY VI. were voluminous and long, lined with ermine, and having a short cape of the same over all. The mantle of the Knights of the Garter was now first made of velvet lined with white. There was a certain order even in that disordered time, and, as near as I can find, it appears to have been somewhat after the following fashion in regard to the order of the nobility and gentry of the period:—Tight-fitting hose of silk and long pointed shoes; a silk or satin doublet shorter than the shortest pea jacket, with sleeves laced or buttoned tightly to the wrist; over this a surcoat equally short, but with rather full sleeves, especially at the shoulder; the waist tightened to the fullest extreme; the collar of the doublet stood up Quaker-like, and was seen above the necking of the surcoat. The sleeve of the latter was usually slit at the elbow, so that the arm could be passed through it if desired; the surcoat was fastened in the front, and pleated in a triangular fashion from the shoulders to the centre of the waist. But—and this is a very important but—this surcoat or jacket was sometimes worn loose without any pinching in at the waist or pleating. Such was the ordinary in-door dress. On occasions of State, from the simplicity of an everyday reception to the sumptuous show of a coronation, there would be added to the dress just sketched one or more of these four garments—a pelicon, a houplande, a robe, a mantle. These outer vestments were worn by ladies as well as by gentlemen, with this important difference, that whilst the men covered themselves up to the throat, the women exposed the neck and body as much as they possibly could do by throwing back the dress to the extreme limits of the shoulders and bringing it together at a point in the centre of the waist, so that the monk-king's exclamation "Fie! fie! for shame! forsooth ye be to blame," is not so very surprising. It is next to impossible to give without illustrations the various cuts of these outer garments; but there is no difficulty in seeing them, for the MSS. of the period have been copied in modern works, and the originals are easily to be found in our own and the French national libraries. There are one or two characteristic features, however, which we may as well note before concluding. 1. The parti-coloured dresses mentioned in my article on RICHARD II. continued to be worn, especially by the middle classes. 2. The ladies' head dress was generally either heart-shaped or conical, but in each case high, and sometimes so extravagantly tall that the doorways were not lofty enough to allow of their passage without stooping. From these head dresses depended semi-transparent veils and sometimes richly woven or embroidered silks. At the same time there are examples of a more moderate head-gear, just as there are of decent and modest bodices. 3. The lady's waist was tightened to excess, and belts were worn so broad as to look almost like an external corset or stay.

The armour of 1422-1444 was, generally speaking, like that in use during the reign of HENRY V., but richer, and as full of little points of variety as the civil costume. The salade or sallet was the new and fashionable head piece. Surcoats over the armour were now rarely worn, but the nobles (in France), when not engaged in battle, wore the short houplande, an artistic kind of great coat made of costly material, such as velvet, or even cloth of gold. The chief things to notice as distinct developments of the armourers' art at this period are the increased size of all the joint-pieces, i.e. those of the shoulders, elbows, and knees; the more extended use of laminated plates; and the general endeavour to secure the freest articulation with the closest possible fit.

Part II.

The second part of this long history commences in April 1445, with the introduction of the Princess MARGARET to her "alder-liest sovereign" in the Council Chamber at Westminster, and concludes with the first battle of St. Albans, May 23, 1455. The events dramatised by the poet are mostly to be found in contemporary chronicles, but those of the first and second Acts are confounded by the introduction of the affair of the Duchess of GLOUCESTER and HUME, the mediæval spiritualist, a disgraceful plot which had been completely worked up *four years* before the play opens.

Although we have to do with riots and civil wars, we have far less confusion of scenery in Part II. than in Part I. We bid farewell to France, and shall see her no more in the histories except in a brief visit to the palace of the Louvre (Act iii. Sc. 3, Part III.).

The architectural scenes are chiefly in London. Besides these there are two scenes laid close to the town of St. Alban's—for I take it that the first scene of the second Act, and the second of the fifth,

* "France modern" signifies in heraldry *three fleurs de lys* only. The old form was *semée de lys*.

may be the same. There are also two scenes at Bury St. Edmunds, and one outside Killingworth Castle. In London we have—

1. Room of state in the KING's palace at Westminster (Act i. Sc. 1, 3. Act iv. Sc. 4).
2. Hall of Justice in the KING's palace at Westminster (Act ii. Sc. 3).
3. Room in the Duke of GLOUCESTER's house (Act i. Sc. 2).
4. Garden front of Gloucester House (Act i. Sc. 4).
5. Bedchamber in Winchester House (Act iii. Sc. 3).
6. A street in the City (Act ii. Sc. 4).
7. Cannon Street (Act iv. Sc. 6).
8. Smithfield (Act iv. Sc. 7).
9. Southwark (Act iv. Sc. 8).
10. The Tower—outside the walls (Act iv. Sc. 5).

But by far the most important scenes in the play are those laid at Bury St. Edmunds. The first scene of the third Act represents the Parliament of February 10, 1447, that was held in the Abbey. The second scene introduces us to one of the most stirring situations in the whole range of dramatic art, although two or three of the speeches might be somewhat too long for a critic of the order of POLONIUS. Now, in order that we may the better comprehend both scenes, let us try and get some notion of what is meant by the Abbey of St. Edmundsbury. And first of all "the abbey" does not mean *the church*—Drury Lane and all the stages in christendom to the contrary notwithstanding. Nor does it merely mean the church and cloister with the buildings adjoining thereto. We are getting near it, but still it means more than this, for we must remember that our great abbeys were enclosed by crenellated walls with towers and gateways, and although not absolutely bristling with fortification, were yet far from being insecure. At St. Edmundsbury the abbey walls included an area of about twenty-three acres. There were five gate-houses and gate-towers. Besides the church and the cloisters, with the adjoining monastic buildings situated in the centre of the enclosure, there were the infirmary, touching the eastern boundary; the brewery, bakehouse, &c., against the north wall; the two parochial churches (St. Mary and St. James) against the west wall; and the *palace of the Lord Abbot* extending from the monks' buildings northwards to the extreme boundary. I will venture yet a few more figures in order that we may be helped to realise the greatness of the place. Thus, besides the Lord Abbot and the chief officials, there were no less than 80 monks, 40 priests to attend at the numerous altars, and 15 chaplains in attendance on the officials, whilst the Abbot's revenues were equal to 52 knights' fees. One more figure:—In the time of HENRY VI. the church of Edward the Confessor was a few feet shorter, and that of St. Alban's a few feet (48) longer than this of St. Edmund, which measured about 500 feet. In other words, the church of the East Anglian martyr ranked in dimension of length among the first group of ecclesiastical structures this side the Alps, exceeding most of the great monasteries and all the English cathedrals (modern use) save three. In the history of the rise and fall of this powerful monastery, from its foundation A.D. 945, we read that the church was begun to be rebuilt by Abbot BALDWIN, and the presbytery, or eastern part finished in 1094; that Abbot SAMSON rebuilt the choir and finished the towers (1182-1211), that SAMSON's bell-tower (like a great many others of that time) was blown down in 1210, and that the great gateway was built about 1130. An examination of the ruins shows clearly enough that this twelfth-century work endured to the end, and that the general effect of the Abbey buildings was emphatically Norman. The Norman chapter-house—a chamber measuring about 100 feet by 50 feet—would furnish the scene for the Parliament. This chamber would be lighted from the east end and from the eastern half of the south side, and the only entrance would be at the west end. The throne, with its tester or dais, the tapestry lining the walls, worked with scenes from the life of St. EDMUND, the royal arms, the first banner of the martyr king (the Temptation, and the Lamb in an aureole midst the firmament, all worked in gold on a blood-red ground); the arms of the abbey, three gold crowns on a blue field, the pennons and banners of knights and barons, give us a glimpse of the life and colour in the mere properties of a scene which must have been one of strange contrasts, and replete with movement and excitement. For this Parliament was heralded by unusual military display, the Duke of GLOUCESTER alone being attended by no less than eighty horsemen.

The second scene of Act iii. is headed

BURY.—A Room in the Palace.

SALISBURY, speaking to the KING on behalf of the Commons, says that—

Unless Lord Suffolk straight be done to death,
Or banished fair England's territories,
They will by violence tear him from your palace.

"Your palace" tells of the beginning of some confusion as to where we are. The KING and his Court were the guests of the Lord Abbot, and were lodging in the Abbot's palace. But SALISBURY seems to have forgotten this, and VAUX is either more forgetful of it, or else the third scene should have been laid in Bury instead of in London. Cardinal BEAUFORT really died at Wolvesey, but as it would be awkward to move the Court from Bury St. Edmunds to Winchester in time, seeing that his attack was sudden, and that he

was "at point of death" when VAUX left him on his journey to Bury, and as there is no reason whatever for London being substituted for Wolvesey, we may, in this instance, fairly change the third scene from London to Bury, and so render VAUX intelligible, and preserve the unity of place throughout this Act.

The palace of the Lord Abbot was a very long pile of buildings in line with the transept of the church, and terminating close by the north gate. From the windows eastward one looked out over the Abbot's court and garden upon the fish-ponds, and across the rivers Lark and Linnet to the vineyards and the walnut-tree close. The dove-cot stood by the river side close by the fish-ponds, and to the left at a bend in the river Lark rose the fine east gate guarding the head of the Abbey bridge; westward the windows opened to the great court, which was bounded on the opposite side by a high crenellated wall, culminating in the grand Norman gatehouse that has been so often illustrated and described. The interior of the rooms forming the subject of the scene may be constructionally of any style, from late Norman to the Perpendicular of the first half of the fifteenth century; but whatever the building may be, we have to remember that in fittings, furnishing, and decorating the textile fabric must still be supreme.

Of Killingworth Castle I know nothing.

In the views of the Abbey of St. Albans the scene-painter's difficulty will consist in the restoration of the monastic buildings which stood south of the nave of the great church.

The London and Westminster scenes remain very much the same as in the Lancastrian histories already noted.

Of the costume I have nothing to add to what has already been said in my notes on the first part of Henry VI. Perhaps, however, in the battle of St. Albans the hand-cannon or *gonne*—the first parent of the matchlock—would have been used, for it was known in this country as early as 1446, if not earlier.

HISTRIONIC ARCHITECTURE.

BY AN OLD CONTRIBUTOR.

THIS is the age, say many, of English Common Sense *par excellence*.

Is wisdom, science, benevolence, finance wanted anywhere, it is in England that it is to be had. Is merchant or manufacturer, miner or mariner, engineer or king required, get him in England. For the common sense of the nation renders everything easy to Englishmen, from the hunting of lions in an African jungle and the search for the sources of the Nile to the laying down of telegraphs in the depths of the sea and the discovery of the North Pole. When, therefore, such a people condescend to so small a matter as the building of houses, it is to be expected that this common sense of theirs will signally shine. In fact, house-building is a thing of common sense or nothing. The dwelling in which one lives, the church in which one worships, the public street along which one passes in a Hansom cab to business, the Senate-house in which one's representatives transact the affairs of the nation, the warehouses in which one purchases the necessities of life, and the courts of law in which one quarrels with one's neighbour—unless these edifices are built in common sense, how, in the name of common sense, can they be built at all?

They can be built, is the singular answer, *histrionically*. It is all very well in theory to speak of common sense, all very well to take it for granted that such a quality must display itself, as matter of necessity, in the construction of a building for a common sense purpose by common sense people; but in practice—strange as it may seem to say so—we find it much more easy to work in masquerade. And so indeed it will be found, in these very days of ours, when common sense rules the world, as it does, very much from our own dear dirty London as a centre, that architecture is essentially histrionic, even if nothing else be so. When we read now and then in the *Morning Post* that my lady the Marchioness (whose title, by the way, is one of pure common sense and her rank in no way histrionic) has appeared at a fancy ball in the character of JOAN OF ARC, it is but a jest, and there is an end of it in the morning. Her ladyship certainly does not turn out to church next Sunday in full armour, with the attendant Jeames in the rear carrying her sword in one hand and her prayer-book in the other. So also, when Mr. Common-Councilman goes to Court with an address of congratulation to the QUEEN upon having escaped from some such calamity as a shower of rain, and when he is arrayed for the occasion in a hired suit of Windsor uniform, under his blue gown trimmed with sable, all this is both very pretty and very proper for the moment; and the patriotic citizen is to be seen next day serving behind his counter in Bishops-gate Street, with his clean white apron on, and in his clean shirt sleeves. When, again, my LORD CHIEF JUSTICE sits aloft in awful state on his imperial throne, in a voluminous horsehair wig and a robe of grandeur, listening with a smile of incredulity to the polished periods of Mr. ATTORNEY-GENERAL, dressed in another kind of wig and another kind of gown, no sooner does the clock strike the welcome hour of retirement than his lordship walks briskly off to the Athenæum or the Carlton in a chimney pot hat and a paletôt of the period, while the learned counsel hurries to the robing-room to be divested likewise of his histrionic habiliments with all possible dispatch. But although my lady does not go to church in armour, she kneels down in an edifice of what is called Norman design, and

sings Gregorian chants; when Mr. Common-Councilman goes into the presence of Royalty, and is received by beefeaters of the sixteenth century, it is in a gallery professing to be of the fourteenth; when the Lord Chief Justice is in his club he considers himself to be accommodated in a building that is either of Greek or Italian Renaissance; and, whatever may be said of the chamber in which Mr. Attorney-General has been pleading to-day, it is to be replaced within a year or two by one which will be as nearly as possible precisely such a chamber as that in which a monk of six centuries ago, all shaven and shorn, might have argued the law of that enlightened period before a mitred abbot or the King's Grace himself. Not only have our Marquesses of SALISBURY and Dukes of ARBELL to debate venerable questions of ecclesiastical establishment, succession by primogeniture, and land tenure in a spuriously historic and therefore purely histrionic hall, overlaid with heraldic devices and antique gilding, equally a bore to the Tory and the Whig, but City merchants and brewers, Lancashire spinners, Indian colonists, Scotch farmers, and Irish attorneys, discuss in a miscellaneous manner the discipline of workhouses, the muzzling of ships, accidents on railways, duties on tea and tobacco, building bills, factory bills, petroleum bills, licensing bills, the subversion of lazy Oriental thrones, and the annexation of enterprising Cannibal Islands, within somewhat inconvenient and restricted walls that have been specially designed for the purpose of "harmonising with the associations of the spot," and surrounded by articles of furniture which have been shaped by the retrospective fancy of a PUEIN, although punctured all the while throughout their legs and arms with innumerable little holes contrived for ventilation by the scientific ingenuity of a RIBA. Not only do our village churches exhibit to the pensive antiquary sometimes a stern preservation of the historic features of the olden times, and sometimes a more or less liberal rendering of the same in modern restoration; but new evangelical churches in the suburbs of our most prosaic towns, and even the Nonconformist chapels of a score of dissenting sects, literally vie with each other in an earnest imitation of the same characteristics; for reasons which, as they are admitted to be anything but historic, can therefore be nothing but histrionic. Not only do our country seats of traditional fame display what is perhaps after all a vain endeavour to perpetuate ancient memories by means of the semblances of ancient forms, but semi-detached villas and cottages for maiden ladies, mansions for sugar-bakers and distillers, manor-houses for country gentlemen without the slightest pretension to a grandfather, almshouses, lunatic asylums, and miscellaneous refuges for the destitute, to say nothing of parsonages and parish schools, must be all in the mode; and it matters very little what mode that may be, provided it be not any mode that is identifiable with to-day. Not only are the new colleges of Oxford and Cambridge ingeniously devised so as to pretend to be in the manner of the old; but brand new seats of learning, subscription academies, the ventures of private pedagogues, and charity schools founded by advanced liberal millionaires, must ape the manner of the middle ages with all the painstaking that archaeological learning can bring to the task. When there is a talk just now of reforming all this, and of turning over a new and better leaf in architectural design at large, what does it happen to end in? "Queen Anne." The new leaf is only one of the same book; the better leaf professes no more than to be a fresh start on the old story; if one histrionic chapter is to be brought to a close, another is to be opened; and if we have had enough of Early Gothic, we are to try a revival of Early Georgian.

The rationale of this building in masquerade is not easily understood. The uninitiated are so entirely unable to comprehend the principles upon which architectural design is actually done, that such histrionic developments as these seem to be, if not common sense, possibly no more than some uncommon sense which is a proper part of the mystery. Those, on the other hand, who are themselves experts have been so accustomed to the histrionic idea as the basis of all their work, that it is not suspected of being anything else than the simplest common sense of their craft. Even the critics from without, who are as free from the professional imbecility they deplore as from the lay inaptitude they repudiate, have not, as it yet appears, hit upon the notion of challenging the histrionic element at all. The fault of copyism they comment upon, the want of originality, the failure in novelty, the inability to rival the ancients, the incompetency even for imitating them with success; but why it is that building ought in any way to go into this masquerade, what it would be without such disguise, how to divest it of the adventitious dress, and how to dress it afresh, are questions that Mr. FERGUSSON and Mr. RUSKIN and the writer in the *Quarterly Review* equally fail to answer, or even to ask. Our amateur designers themselves, who, in the plenitude of their genius, actually accomplish architecture without an architect, and, like Sir EDMUND BECKETT, can address an assembly of professional architects in the character of practitioners like themselves devoid of their faults, do not happen to say anything of the very remarkable circumstance that the designing of the expert is at the best but a performance of simulation, and that their own, for what little it may be worth, is just the same.

To form an idea of what is the real effect of histrionic design in building, let us look for a moment at what the same thing brings about in furniture. It is well known to be a common practice for a certain kind of connoisseurs to go burrowing about in Wardour Street. There they pick up quaint—that is to say, pungently and picturesquely characteristic—chairs, tables, looking-glasses, cabinets, and what

not, of the period of Queen ELIZABETH or of Louis QUATORZE; as now-a-days they seek, perhaps, the spindle-shaped commodities of the CHIFFORDALE manner; and with these articles, generally very much at sixes and sevens amongst themselves, supported by an equally or perhaps still more exceedingly odd assortment of pictures and ornaments of the days of the HENRIES, they at once equip and adorn their rooms for the use of their families and friends. The consequences are so well known that they do not require to be described. But, in order to escape from such obsolete and inconvenient authenticities, some of our architectural and decorative designers have set themselves the task of putting modern articles of furniture into a corresponding masquerade; and new and original Gothic cabinet-making and upholstery, varied at the present moment by equally new and original "free Classic" goods, are very much the rage with those persons, fit though few, who claim to be people of taste. And what say the common sense public? Simply that the whole adventure is histrionic and absurd. Why, then, should the case be different in the design of buildings? An anecdote may be related in point. An eminent and, as things go, highly successful Gothic architect received a visit one day from some one who ventured to remark that he was like a certain equally distinguished Gothic amateur, in that he did not himself occupy a Gothic house, although he had done so much to induce others to do so. "No," was the candid reply, "I will build for others as many Gothic houses as they please, but I should not like to live in one myself." So much for histrionic architecture, thus clearly enough brought down to the very level of Wardour Street; for the dealers of that dull world would probably use the self-same words in acknowledging the self-same readiness to sell as much furniture of the old school as the world will please to buy, but reserving to themselves all the while the personal right to object most decidedly to use it in their own homes.

The mania for Greek design in the early part of the present century was quite as absurd as the extremest popularity of Gothic now. The case is little better when we contemplate the neo-classic clubs of Pall Mall, telling of Venice, of Rome, of Florence, but not of London. The controversy about the decoration of St. Paul's Cathedral, turning as it does upon "the intentions of Sir CHRISTOPHER WREN" and the types of one school and another of Renaissance design, is very much the same. There is not a penny-a-line report of the inauguration of a new public edifice that does not touch upon the style of the architecture as being a rendering, whether strict or free, of that which belongs to this or that century of the past, and sometimes to this or that particular territory of Europe. If we have as yet escaped the horror of figuring in Japanese, it is certainly not for want of having found that mode of masquerade in certain other departments to be full, as we say, of interest and beauty; and indeed if it should still turn out, on further investigation, to be possible to build in England as they build in Japan, it is not to be denied that we are quite open to try this experiment as earnestly as any other.

Here then is a question for our architectural essayists, whether professional or not, to exercise their wits upon. Why all this masquerade? Why build histrionically at all? There is no effect without its cause, and the cause for this is certainly worth our endeavouring to find out. That our architects should copy from each other, or plagiarise from foreign schools or past periods, or fail in respect of originality, or utterly collapse in respect of fancy, may be comprehensible enough; but that they should know no other manner of design except that of the fancy ball, and dress out their buildings as matter of course in the disguises of the stage, is a principle that it surely is worth an effort to understand.

WINTER EXHIBITIONS.—THE WATER-COLOUR SOCIETIES.

THE winter exhibitions of the two water-colour societies are now both open, although the erection of a new façade to the gallery of the elder society, which delayed the opening, had scarcely progressed sufficiently to give safe ingress to the private view on the 3rd inst.

In some respects these winter exhibitions of sketches and studies have more interest than their summer successors. The first thoughts of an artist as they fall into shape from the end of his brush, and pass through tentative efforts into final form; the fresh impressions transferred from out-door nature to his sketching block, have all a charm unique, and one might say more personal than the finished works of the studio. We watch the method, and note the mood of the painter through them, and thus seem brought nearer to him. Happily in the room of the Old Water-Colour Society one is really allowed this pleasant experience. Sir JOHN GILBERT, for example, sends a frame full of little *Sketches and Studies of Pictures already Painted* (327), besides some fine unfinished compositions. That versatile and unequal painter, Mr. WATSON, contributes clever studies for subject pictures, and one or two delightful sketches, such as *A Surrey Cottage* (308), and *A Welcome Visitor* (185)—the last a bit of farmyard incident, a girl at evening carrying pails of food to the pink-nosed little pigs that peer over the sty-door at her. The most striking study by this artist is, however, of two peasants—woman and child, returning *Homeward* (94) from field work with plodding, weary step. The elder girl's handsome, rather lowering face is

half covered by a white handkerchief, her sinewy arms hang with clasped hands heavily together, the child, who bears a faggot of sticks, looks up—a bright, simple, round-cheeked thing—and the evening sinks red behind the winter hedge-rows. These types might come from Central Italy, yet have an English look too. In Devonshire one meets such sometimes. Any way, the study is a masterly one, and shows what Mr. WATSON can do in honest work.

Of other figure artists in the same *genre* Mr. MACBETH and Mr. MARSH are most interesting. Mr. WALKER, although the dainty miniature family picture called *Evening* (298), by Mr. MACBETH, is very near him, still stands alone for perfection on a small scale. No. 326, wherein two girls gaze through an open casement at "*The Rainbow*," leaves nothing out that can give charm to the simple incident. The attitudes of the girls—the younger kneeling up in a chair, and looking earnestly out; the other, with her back to us, pausing on her way to gaze also—are poised in the very nicest balance of expression; every line tells the same way. The pale, rainy sunshine that shimmers into the room, the outdoor glimpses of greenery and many-coloured arch are suggestive of sweet airs and scents, of dancing lights and singing of birds after a summer shower. A little picture like this is as a lyric in pictorial art. It is interesting to observe how an artist carries his manner into new fields of subject, as we note the two contributions of Mr. FURWELL, both street scenes in Tangiers (183, 189). The old type of face, large-lipped and drooping-eyed, the very lanky, angular, yet graceful forms, seem to have scarcely needed modification to fit as transcriptions from Tangerine humanity. These studies, sensitive in feeling, picturesque in selection of incident and objects, show the artist's old failing in drawing of extremities. But it is a matter of rejoicing that these pictures may be taken as earnest of future work from one of the most original figure-painters among our aquarrellists. While speaking of eccentric genius, it is impossible to overlook Mr. BOYD HUGHTON. The "*Arabian Nights*"—dear delight of not only young but grown-up children—have found in Mr. HUGHTON a most apt illustrator. In two weird performances, the *Transformation of King Beder* (273), and the *Enchanted Horse* (72), there is a probable improbability about the whole thing, a sort of allowable and natural impossibility of colour, attitudes, figures and landscape, that clearly show the artist has at any rate discovered one of his fit *métiers*. He is so clever that he may start out any day on some fresh and abnormal subject, and show himself equally at home therein.

The landscapists, who form the bulk of exhibitors, seem to be divided in opinion as to what constitutes a "study" or a "sketch." Many of the drawings are most carefully thought out and executed; others are mere jottings, or finished only in special points. Mr. CLARENCE WHATE takes us by surprise with a large and certainly powerful drawing of *Wheat Harvest in Cambridgeshire* (249), to which the hangings have accorded a central position at the end of the room. The scale, the relation of masses, and perspective truth of this picture are certainly managed admirably, and it contains passages of fine colour study, the intricate play of red ochre and buff in the sloping stubble-field for instance. Yet is the tone generally crude; the gay group of figures strikes a discord into the harmonious whole, and there is a muddled manner in the handling. Mr. WHATE gives us the impression of mistaking heat for power in colour, while his hand seems somewhat to fumble in following out the forms that his eye evidently apprehends quickly and clearly. Among simple and true nature studies are the sketches of Mr. HALE. *A Recollection of Norwich* (331) glows with the veritable soft flames of winter sunset; *Wind and Tide* (198) and *Views in Dorsetshire* (207) are fresh and limpid as light and pure colour can make them. Mr. HALE may never overstep a modest mark, but so true a student of nature cannot become false or weak.

Weakness will never be the bane either of the new lady member, Miss CLARA MONTALBA: the only fear is that she will be too strong for her subjects. But very capital are the sketches she sends, a bit from Venice, clever studies among ships and barges and dirty water, a red bedstead from Hôtel Cluny, the zeredos in Westminster Abbey. The last may be taken as instance of a certain impatience and rough and ready method which may hinder the lady from making steady progress. In colour this drawing is amazingly powerful, but the whole effect is more a clever fancy of the artist's brain than a tender and faithful study; the smooth and squat grey pillars are not the time-stained aspiring growths of the Westminster Gothic, the crimson seats are tinted from a favorite colour on the palette, the arches behind the golden zeredos are all empty of the mysterious and blue mist of distance which fills the far spaces of the apse in the old abbey. Yet we repeat that as a bit of artistic effect the sketch is masterly. Much in contrast to Miss MONTALBA's dashing manner is the delicate and careful mode of Mr. ALBERT GOODWIN. His colour has the subtlety of some of nature's delicate intricacies in flower and feather, it has a bloom upon it, almost. The effect seems produced by a repetition of variously coloured touches; apparently this multiplication of tints, which Mr. RUSKIN pointed out as one secret of TURNER's method in water colour, has formed the basis of Mr. GOODWIN's system. Combined with delicate and conscientious pencilling and a fine sense of atmospheric effects, it produces a beautiful and tender manner now identified with the artist. We are at a loss to account for one odd effect in nearly all Mr. GOODWIN's drawings; they produce the impression of scenes beheld through a telescope; they seem always a long way off. This may partly arise

from a certain abhorrence of hard edges and strong contrasts or relief. Any way the reader, if he will note Mr. GOODWIN's work, must soon observe this peculiarity. Mr. CARL HAAG has brought back some boldly drawn and striking studies from the East. It is a pity that a certain tendency to melodramatic effect should haunt even these masterly sketches. We must draw this notice to a close, but not without a word of admiration for the beautiful and subtle drawing by Mr. POWELL, of *Lech Fyne, Morning* (149), where the herring boats are moving like ghosts in a haze that mingles shimmering water and faint sky in one mystery of opaline hues and shifting lights.

The honorary members are not neglectful. Mr. PRESCOTT HEWITT shows himself the quiet student of nature, and Professor RUSKIN sends scraps of elaborate fidelity which are at any rate examples of that reverent painstaking to which he exhorts his disciples. If the labour of the work were not so distressingly evident it would be possible to take much delight in the truth of such studies as the *Glacier des Bossons* (22), and *The Two Old Bridges of Verona* (219). Mr. RUSKIN, dotting over his subject, may have felt a thrill of delight at every faithful imitative touch, but he fails in the result to impart the thrill; we see the artist's effort, not the unconscious beauty of nature. But this may be a warning to the young students who may be inclined to follow the Professor's example too literally. The *ars celare artem*, which is supreme in Mr. RUSKIN's splendid written eloquence, is entirely absent from his work as a painter.

The sketch exhibition at the Institute gains ground year by year, as honest work takes the place of flimsy show or sentiment. In figure artists this society now rivals, if it does not surpass, the elder body. Messrs. LINTON, A. GOW, C. GREEN, J. TENNIEL, HERKOMER, SMALL, BROMLEY, SKILL, KILBURN, CARTER, and the honorary foreign member J. LARABEL, make up a group, each member of which has strong characteristics and no mean talent. To the list may be added Mr. GREGORY, and the new member, Miss THOMPSON; even Mr. JOPLING cannot be omitted, as not the worst taste can quite conceal his exceeding cleverness and capability. We have especially noticed among the contributions of the above-named artists the study numbered 70, and the subject from "*Tristram and Ysolde*" (54), by Mr. LINTON, in both the execution seems less woolly, and the forms more pronounced, than is of late the painter's manner. Should the *Tristram* composition be used for a finished picture, however, Mr. LINTON will do well to look to the strange and clumsy relation in scale of the figures. The knight must be seven feet, while one of the damsels who assists him into the presence of Ysolde is a regular dumpty. The sketches of H. HERKOMER have the charm of local character aptly caught. *The Bitgang* (256), or Tyrolean pilgrims descending a mountain path, praying, gives the serious, as *Carnival Festivities in the Alps* (344) does the joyous grotesque, side of life in the Tyrol. But for delicious realism of atmosphere, and picturesque touch of character, comes foremost, *A Gossip*, where, from the daisied grass-plot of one garden, under the blossoming apple trees, a woman loiters to chat with another old soul whose wrinkled face under an umbrella appears over the partition wall of the next garden. The air is one blaze of spring sunshine in orchard blossom, bright grass, and distant maze of red tree stems and purple brushwood. It is a day to hear the buds push and the skylark sing in the cloudless zenith. Mr. HERKOMER never was more happily true. In this and other sketches the figure painters steal into the foreground of the landscape men. Indeed the Institute is rather strong in this mixed *genre*. The Messrs. FAHEY and Mr. SMALL add figures to landscape rather than make them chief points of interest. The *Autumn Evening* (275) of the last named is a capital outdoor study. Mr. SKILL has been travelling, and his notes from Venice and Geneva are crisp and well drawn and clear in colour: scarcely more sketchy than the pictures he usually exhibits, perhaps, for his handling is rapid, and he aims at emphatic effect rather than detail. Old favourites among the landscape artists keep their place, and in this department we see no additional members of value.

The sensation of the winter season must come from the *Punch* cartoons of Mr. TENNIEL and the dashing studies of Miss ELIZABETH THOMPSON. The lady is certainly a welcome appearance, the artistic "devil" in her work is enough to rouse the slumbering energies of all the old members in the gallery. Her talent seems, like the horses she draws, to gallop over all obstacles; we only recommend the fair rider to keep a steady seat in the saddle, and a firm hand on the rein. With work and deliberation she may achieve any position in the *genre* she has chosen; without—go the way of much genius, into rant and show, and leave no lasting name.

ARTS CLUB.

THE members of this club gave two *conversations* in the rooms of their club, in Hanover Square, on the evenings of Thursday and Friday last, ladies being admitted on the latter night. The rooms were filled with various pictures, china, and other objects of art lent for the occasion by some members of the club; and there was a large gathering of members and their friends on each occasion. This club sets a good example to other art bodies of collecting and exhibiting the numerous interesting works in the hands of private collectors for the inspection of its members and their friends.

BURLINGTON FINE ARTS CLUB.—THE WORKS OF W. HOLLAR.

AT the Burlington Fine Arts Club is now open, by introduction from members, an exhibition of the prints of WENCESLAUS HOLLAR, an engraver and etcher of the seventeenth century, dear to collectors for the fine technical qualities of his work. During his long life of seventy years, from 1607 to 1677, he produced, with untiring conscientiousness and true love of his art, no less than 2,740 pieces, yet he died in poverty, scarcely permitted by creditors to keep the bed on which he drew his last breath. Neither the patronage of rich noblemen in the days of CHARLES I., nor the tender mercies of publishers to the most industrious of workers during the Commonwealth and after the Restoration, seem to have brought him the competence he deserved; he appears to have thought much of his art and little of his pay; he was imposed upon and screwed down, while with generous hand he gave out to others of his hardly-earned wages.

HOLLAR came of a good Bohemian family at Prague, and was meant for the law; but political troubles impoverished and drove his family from their country, and art thus gained in WENCESLAUS a representative probably else lost. He learnt at Frankfort from MERIAN—a much accredited engraver and etcher of the time—and afterwards lived at Strasburg and Cologne. When he was thirty the Duke of ARUNDEL, on his travels, discovered the genius of HOLLAR, and took him into his household, and under these new auspices he visited again his native town.

With the Duke of ARUNDEL he returned to England, and remained until 1642, when, his first patron going abroad, he was transferred to the household of the Duke of YORK. Then came the Civil War, and HOLLAR was in the besieged company at Basing House, and taken prisoner when CROMWELL reduced the stout defence. However, he got set at liberty somehow, and joined his old friend the Duke of ARUNDEL at Antwerp until 1652 or thereabout. After this he worked chiefly in London under many vicissitudes of estate, the chief incident in this portion of his life being a journey, in his 61st year, to Tangiers, to make drafts of the fortifications for King CHARLES II. He was twice married, and gave several "hostages to fortune," who was a hard mistress to him as to many gifted men.

All these details, with many more of interest, are pleasantly grouped in the preface of the Catalogue of the Exhibition by the Rev. J. J. HEYWOOD, one of the principal contributors. Regarding the work of HOLLAR from the higher artistic ground, we must agree that it is for technic rather than for ideal beauty, or any poetry or sensitiveness of feeling that we must admire it. He was greater with the graver than the etching needle, partly because he was no painter; he had not the artist's training. But one or two etchings in this Exhibition are very lovely, notably the *Youth Playing a Mandolin* (96), of which only two exist—this of Mr. A. MORRISON's, and one in the British Museum. Mr. HAMERTON writes of this print:—"This etching is remarkable for a quite extraordinary delicacy of treatment and a most exquisite taste. . . . The tonality of the whole plate is quite perfect in its own key." Mr. HAMERTON observes, however, that even in this the mechanical habits of the engraver occasionally recur. Another elegant etching is the *Lady Playing on a Spinnet* (78). A famous set of etchings are those from the *Dance of Death* (3), of HOLBEIN. Mr. WILLSHIRE, in his "Introduction to Ancient Prints," tells us that one of the subjects in this set, *Death and the Soldier*, is by HOLLAR taken from a spurious edition of HOLBEIN's cuts, the same print being the only one among the spurious examples not reversed. HOLLAR's copies are all reversed, except Nos. 5 and 18. The copper plates were rebitten after they came into the hands of Mr. JAMES EDWARDS, who in 1794 published an edition of them, with a dissertation by Mr. DOUCE. In 1816 the edition was reprinted for J. COXHEAD, with the addition of a memoir of HOLBEIN, but without any mention of the first edition.

Three specialties in the way of subjects are notable in this collection. First, the portraits, a most interesting series. For the workmanship there is nothing finer than the portrait of *Thos. Hobbes*, the metaphysician, after CASPAR, after VANDYCK, in splendid force and freedom. *John Malder, Bishop of Antwerp*, after VANDYCK, is especially striking in the reproduction of the artist's treatment of drapery. Indeed, the way in which HOLLAR followed the characteristic touch and mannerisms of the painter's work he copied shows his mastery and fidelity. Take, for example, HOLBEIN's *Edward VI.* (17) and *Henry VIII.* (28); TENIER's *James, Duke of York* (8), *Alathea, Countess of Arundel*, after VANDYCK (45). The portraits of HOLLAR himself (79, 1 and 2) (88) have their own interest. Instance of the exquisite delicacy of HOLLAR's hand, and his fine observation and power in reproduction of texture and form, may be best taken from the set of *Various Shells* (15), lent by Mr. SEYMOUR HADEN from his valuable collection; the *Set of Muffs* (99), lent by Mr. MORRISON; *Butterflies and Insects* (112), the rare large plates, contributed by the Rev. J. HEYWOOD; and the famous *Hanging Ilare*, after BOEL (11), in the first state, from Mr. HADEN.

Yet another series of great interest are views of old London, Nos. 4, 18, 26, and 100, and the famous etching called the *Long View of Greenwich* in the first state, the only corresponding impression being in the British Museum. Several points of historical or of antiquarian importance we might point to, such as *The True*

Manner of the Trial and Execution of Thomas, Earl of Strafford (25), and *Hugh Lupus, Earl of Chester, sitting in his Parliament* (50), both lent by Mr. HADEN, together with curious satires, ground-plans of battles, &c.

This exhibition—which, from its exclusive character, is of chief interest to experts and collectors—suggests how attractive would be a collection of selected etchings by the best Foreign and English artists of this century.

The Burlington Club has opened an endless field of usefulness in these special exhibitions, which can only be maintained by a private body of connoisseurs, whose treasures cannot be spared or trusted to the walls of ordinary exhibition galleries.

THE COLOSSEUM.

THE following reply by Mr. S. Russell Forbes to the letter by Mr. T. Street, which we published last week, has appeared in the *Times*:—

The walls, composed of tufa, travertine, and brick, evidently old material re-used, built upon the old paved area of the Colosseum, are, without doubt, of a more recent construction than the main building, refuting the idea that they formed the channels for naval fights. Walls speak as well as hear. They are so narrow that it is ridiculous to suppose galleys could have fought in them; besides they would not hold two alongside, and the walls between each of these so-called channels, divided into a number of little cells, would prevent the respective crews from boarding. In fact, these walls "won't hold water;" they are not solid, but have low arches through them on the area. There are five of these passages on each side of the main passage, where the framework is. The first, with cells, is a yard and a quarter wide; the second, without cells, is four yards wide; the third, with cells, is a yard and a quarter wide; the fourth, without cells, is four yards wide; and the fifth, without cells, is a yard and a quarter wide, at their greatest width, all of them narrowing off till they meet at each axis.

Since Mr. Street's visit a large piece of the central passage, on the area, has been excavated, exposing some more of the wooden framework, which, in this part, bears traces of having had planking fixed across it. The masonry, which Mr. Street says is built on a slope, is simply the construction of the walls, for in them is a sloping line up over an archway, to the top of the wall, and then it immediately slopes down over another archway on the other side recently excavated. The wall on the side shows the line of construction plainer, and is not broken down as the part Mr. Street saw is; but if he had examined the tufa stones, which, with the brickwork, formed the piece of wall, he would have seen the holes for the clamps to hold the layer of stones above it.

I believe this area to have been flooded a few feet for the fights, thus forming a *naumachia*; and that flat-bottomed galleys, drawing but little water, and built for the purpose, were used. Whether this area was used as the arena for the gladiatorial combats before the time of Commodus we have no evidence to show, but we know, as shown in my first letter, and also from Dion Cassius, that in his time the arena was a moveable stage, for he says that Commodus, after witnessing the combats, descended into the arena and slew the wild beasts left-handed, then he ordered the arena to be removed for the naval combats, after which the arena was replaced and a grand banquet was given; he also says that sometimes the wild beasts performed upon the arena and sometimes in the water.

The corbels round the front of the line of arches under the podium are in pairs, and between them, I think, the masts were inserted to support the awning on the inside, as the holes and corbels supported the masts on the outside, for I find on examination that those inside are exactly on a line with those outside, at the top of the building. These corbels are 28 inches deep, and from them to the level of the area is 3½ yards; between each pair of corbels are chases 19½ inches wide, ending on a block of travertine for the masts to rest on, the chases coming down a yard and a half below the corbels. They probably helped to support the arena, and show what the height of this wooden arena must have been. From its vast size it must have had a framework and supports; the remains of the framework are there, and the numerous holes on the arena, in travertine, were for the heels of the supports; one of these, a square one, has remains of the decayed timber in it. The only record of naval fights is of those given by Titus, Domitian, Hadrian, Antoninus Pius, and Commodus, and these walls are certainly after their time. I believe them to be the repairs of the Prefect Basilus (not Belisarius, as written by error in my former letter), for an inscription states that he restored the arena and podium after the earthquake; that from that time the arena was a fixed platform with numerous trap-doors for the animals to ascend upon the stage, these walls being the supports, while the passages contained the machinery of the arena; and that after the flood of 555 the basement was abandoned.

The amphitheatre, as finished by the Flavian Emperors, was not so lofty as the present ruin, the upper part of which is of the time of Gordianus I.; and if Mr. Street had ascended to the highest point he would have seen, to judge from the amount of the area excavated, that the spectators commanded a view of the entire area, from their seats rising one above another.

If the metal sockets in the dens were for supports for the front of the dens, the passage way in front would be as wide as the dens; but why should these supports be at unequal distances? On the fragments depicting scenes from the arena, the animals are shown with a long piece of rope or chain dangling from their necks, which seems to bear out my idea that they were attached to posts fixed in these sockets, and that as they were wanted the chain or rope was cut, and they were free to rush upon the arena.

In conclusion, the arena is 250 paces round, and not by any means "a deeply-sunk pit."

KUGLER'S HANDBOOK OF PAINTING: THE ITALIAN SCHOOLS.*

THERE can be little need to explain the nature or to criticise the character of a work so well known in England for over thirty years as "Kugler's Handbook." Like the others in that fine series of volumes on continental art, for which the public is indebted to the enterprise of Mr. Murray, it has done good service in fostering whatever taste there may be among us, and it has been an aid to the stay-at-home student of the history of art no less than to the traveller. As the Handbook was originally addressed to Germans, the author, fortunately for himself, was able to calculate upon his readers having an interest in the subject sufficient to lead them to look at it earnestly, as well as having enough acquaintance with æsthetic discussions to be not afraid of encountering a book on art which assumed a more or less scientific arrangement. But any difficulties in the study of the Handbook which might have arisen from the differences between the conditions of German and English readers were removed in some measure by the excellent notes of the late Sir Charles Eastlake to the translation which he edited, and the fact that there have been three editions of this translation is enough to show how successful he was as an interpreter between the German critic and his countrymen. The third of these editions was published in 1855. In the twenty years that have gone by since then, many facts have come to light with which the old histories of Italian art cannot correspond. A new edition of Kugler was therefore called for which might embody the results of later investigations, and this has now been published. It is exactly what the title page indicates—a revision and remodelling of Kugler. It is no mere reprint, with some additions or alterations tacked on by way of appendix, for throughout one can see that the hand of the editor has been at work, here introducing something new, there removing a paragraph which appeared to be unnecessary, and what has been done, on the whole, shows carefulness and taste. Even in the engravings there is a difference, as they are printed in brown, and Mr. Scharf's fine outlines appear, if possible, better than before. A few of the engravings have been removed, and others, after different pictures, inserted. Two omissions elsewhere seem to us to be without advantage. One of these is the list of works on the history of Italian art, and of books of engravings after the paintings, which would have been of much use to students if it had been brought up to the present, and the other omission is Mr. Palgrave's essay on the early engravings, which had merit enough to secure retention.

It will be remembered that Kugler divides his history into six divisions or books, according to chronological order and the schools, thus avoiding any classification of subjects. The first treats of the later Roman and the Byzantine styles of early Christian art; the second treats of the Romanesque style, having such masters as Guido da Siena and Cimabue; the third treats of the great fourteenth century masters of the early Tuscan, Sienese, and other schools; the fourth treats of the fifteenth century, and the Tuscan, Umbrian, and Venetian schools; the fifth treats of Da Vinci, Michael Angelo, Raphael, Correggio, Titian, Tintoret, Giorgione, and the masters of the sixteenth century—the period of highest development and of decline, and under the sixth division come the eclectic and the naturalistic schools from the Carracci to Giordano. We propose to glance at the more important alterations which have been introduced in these divisions, and which, to a great extent, represent the fruit of the latest researches into the history of Italian art.

The part relating to the catacombs has some reference to the results of late explorations, but we think that Mr. Parker's researches ought not to have been overlooked. May we venture to object also to the introduction in this part of controversial matters? As long as Kugler's name is associated with the book his manner of treatment should, we imagine, be respected. Now he never troubled himself with the truth or falsehood according to theology of the works he described, and in this he displayed good sense, and therefore we think it is not fair to his memory for an editor to bring in, for instance, a long passage, having no marks to indicate its authorship, with the object of showing how far the practices of the Roman Church do not correspond with those indicated in the paintings in the catacombs. To the artist and to the historian of art these paintings have a meaning very different from that which they can have to the student of Church History, and each class will serve its interest best by keeping its own stand point.

Little attention has been given of late years to the study of Byzantine painting, and the chapter on this subject appears to be unaltered. Coming to the Romanesque period, we find the following reference to the family of the Cosmati has been introduced, which is interesting, moreover, as showing the relationship between several classes of artists:—

"Belonging to the thirteenth century, and to Rome and its neighbourhood, were the family of Cosmati, who laboured, as inscriptions testify, in mosaics and paintings in the Cathedral of Civita Castellana, at Subiaco and in the Cathedral of Anagni. To one of the same family, who lived in the fourteenth century, belong various monuments; that of Cardinal Gonzalvi, in S. Maria Maggiore, and of Durand, Bishop of Mende, in S. Maria Sopra Minerva, both in Rome; verified also by inscriptions. The interesting mosaics of the tribune and such of the tribune in S. Maria in Trastevere, in which a dawning sense of composition is perceptible, are the work of the school of the Cosmati. It is believed that Pietro Cavallini,

also a Roman, was a scion of the Cosmati. He is recorded to have been the author of the choir tribune mosaics in S. Maria Trastevere at Rome; also of frescoes in the same church, of which only vestiges survive. It is certain that he was in the service of Robert of Naples in 1308. He was thus contemporary with Giotto, whose designs he carried out in the mosaics of the façade of S. Paolo fuori le mura."

Kugler's "second stage of Development" commences with Giotto, whom he places at the head of the didactic or allegorical style. There is no artist to whom painting is more indebted than to the son of the poor labourer of Vespignano. By abandoning the conventional types of the earlier masters, and substituting for them others resembling the living forms he saw around him, he became the emancipator of art. Too much stress is laid upon the allegorical character of some of his paintings. In modern times, when the intention of a painting must be recognised at a glance without trouble, and when people can no longer be brought to think that pictures are deserving of study, allegory has fallen into disuse. But practically it is only dramatic work of a special kind, and its employment by so many artists is testimony to its value. As long as the key to the characters is understood, it can be made as telling to the spectator as any other class of composition, and affords greater scope for invention than most classes. In Giotto's days allegory must have entered largely into the discourses by which the multitudes were instructed, and we may be sure that to the humblest peasant Giotto's single figures in the Arena Chapel at Padua, or such groups as *The Marriage of St. Francis and Poverty* at Assisi, required as little interpretation as any literal unimaginative work of the later schools.

The new edition of Kugler is more full in the account of Giotto's work at Assisi and in other places. But it is hardly necessary to say that the fine series of the *Seven Sacraments* in the Church of the Incoronata at Naples, which is probably the work of Robertus de Oderisio, is no longer ascribed to Giotto. According to the editor, "it hardly needed Signor Cavalcaselle's consummate knowledge of early Italian art to overturn this idea, as the style of these works differs as much from the great master as it is inferior to him." There is also the corroborative facts in favour of the later opinion, that the marriage between Louis of Tarentum and Joanna of Naples in 1347, which is represented in one of the pictures, did not take place until eleven years after Giotto's death; and, moreover, the church was not founded until 1352. But there is one apparently undoubted work of Giotto's in Naples, viz., *The Miracle of the Loaves and Fishes*, in the refectory of the old convent of St. Chiara.

It is curious how little is said by Kugler of the real characteristics of Giotto's style in painting. Thus, for instance, he seems not to have observed how simple is the chiaroscuro, and the general absence of cast shadows; and the effect of Giotto's colouring, which is far from being as perfect as his outlines and composition, is not conveyed by saying that "the vehicle he employed with his colours was more fluid than that hitherto used; it allowed a greater freedom of hand, and has also darkened but little with time." On the influence of the great artist the following remarks appear for the first time in this new edition:—"It is impossible to overestimate the influence of Giotto's genius. He opened a fountain of nature to the gifted generations who succeeded him in Italy, which permeated through the length and breadth of the land, spreading beauty and fertility in its course. At the same time there also followed, as in the nature of things, a stream of convention in the shape of a multitude of now nameless Giottesque painters, which grew feeble and more lifeless till it expired. No Christian artist can perhaps be quoted who raised such a host of imitators—certainly none of whom, even the names of his imitators, have been so completely forgotten. Nor does painting only claim him as her reviver. The sculpture of the Renaissance may be said to be in great measure his creation. The feeble and mannered sculptors of Pisa partook more of the grotesque element. It was Giotto's designs for the bronze doors of the north side of the Baptistery at Florence, and for the subjects on the Campanile, executed by Andrea Pisano, which gave a fresh impulse to the art—an impulse which, springing from a painter, maintained with singular tenacity the picturesque character which is one broad distinction between Italian sculpture and the antique. Those interested in the study of Giotto will find him nowhere more characteristically himself than in these designs. It would be interesting to trace how many of the motives admired in the works of later painters have descended from this great man. Such, for instance, as the pathetic action of the Virgin's extended hands in Raphael's *Spasimo*, was doubtless created by Giotto, though not, we believe, discernible in any of his surviving works; but it appears among his followers—as in the fresco by Giottino in S. Francesco, Assisi, of *St. Nicholas Restoring a Girl to her Parents*, and in the lately uncovered fresco of the *Procession to Calvary*, in the sacristy of S. Croce, Florence, and is far too fine to have originated with them."

Modern criticism has been much exercised in endeavouring to assign to their proper authors a great proportion of the works of the followers of Giotto, and possibly some of the new conclusions may be altered in the course of time. Thus, for instance, in the third edition of Kugler it was suggested that the works in the Chapel of the Spaniards in S. Maria Novella, Florence, were hardly the joint work of Taddeo Gaddi and Simone Memmi of Siena, as was stated by Vasari. "The improved science of criticism, in this instance originating with Ramohr," confirms this by discrediting Vasari's statement, but "it has not at present led to anything more positive regarding these works than that some of them are Giottesque, and may possibly owe their composition to Taddeo Gaddi, and their execution to another hand;" Crowe and Cavalcaselle say the latter was Antonio Veneziano. A more remarkable alteration of authorship is found in the case of the famous frescoes of *The Triumph of Death* and *The Last Judgment*, in the Campo Santo, Pisa. Following the accepted tradition, these were said by Kugler to be the works of Orcagna, merely mentioning that Förster had just stated that they could not have been Orcagna's, as they did not correspond with his paintings in Florence. Since then no research has settled the question; MM. Crowe and Cavalcaselle, however, stand up for the Lorenzetti as the painters. In the new edition of Kugler the engravings of the frescoes are without a name.

* "Handbook of Painting: the Italian Schools." Based on the Handbook of Kugler. Originally edited by the late Sir Charles Eastlake, P.R.A. Fourth edition. Revised and remodelled from the latest researches, by Lady Eastlake. London: John Murray.

The frescoes of *The Life of Job* in the Campo Santo, which used to be ascribed to Giotto, have been, since Förster wrote, accepted as painted by Francesco da Volterra. But Mr. Ruskin, although he considered that the evidence in favour of the latter was uncontrovertible, yet believed that the internal evidence was in favour of the design, if not the execution, being Giotto's. The landscape, he says, is Giottesque, the figure of Eliphaz is reproduced from a tempera of Giotto in the Academy of Florence, and the figure of Satan resembles the Envy in the Arena Chapel, "and many other portions of the design are evidently either sketches of the very subject by Giotto himself, or dexterous compilations from his works by a loving pupil."

Kugler's conclusion with regard to the followers of Giotto is that in the course of a century they did not essentially progress beyond his limits. All that is new in their productions is chiefly confined to that beauty of head and mildness of expression which reached its highest development in Orcagna, but this in no way affects the spirit of the school.

(To be continued.)

APPRECIATION OF ARCHITECTURE.

MR. EDWIN NASH, F.R.I.B.A., sent the following communication to the Institute on the occasion of the recent discussion on "Architects and Master Workmen":—

The foolish notion that a workman is the fittest man for making the design of a building and for arranging the method of carrying it out, has, like many other statements made by simpletons, done some good, inasmuch as it has induced wise and skilful men to declare their views. The monstrosity of the idea is so ridiculous that it might have been treated with silent contempt, but as it has elicited amusement and instruction it will, at least, have served some purpose. I doubt whether the writer has ever designed and superintended the erection of any building, and if he has not, the worthless character of his opinion on practical matters is accountable, and the escapade may be pitied and forgiven.

In the Fine Arts, and perhaps in other arts, adverse criticism by some persons is equivalent to commendation, inasmuch as there are many whose inability to form a right opinion is well known, and whose judgment must therefore be taken as the reverse of correct. At the same time I think that in the present day our ideas regarding architectural art require some consolidation. Opinions of all kinds are received both by architects and by the public with some degree of favour, and, be they right or be they wrong, no test seems to be applicable to them.

The faculty of *appreciation* of architectural art has not yet been fully arrived at. It is a faculty which must be cultivated, and it is far more difficult in architecture than it is in painting and sculpture, because, as respects the direct imitation of the works of nature, the three arts of architecture, sculpture, and painting have very different powers. Architecture is the least imitative, sculpture is more so, but painting the most imitative of all; and the more imitative an art is, the more easy and the more general will be the appreciation of it, inasmuch as less cultivation of mind is needful for a recognition of the excellencies contained in fine transcripts of nature than of the excellencies contained in works founded upon conventional forms.

Architecture being composed of forms which, though educed from nature, have been adapted to the necessities of building, it is evident that some degree of special education is needful for even a moderate appreciation of its beauties. We have constant evidence of the difficulties of *appreciation*, even amongst the practitioners of architecture, and largely also amongst amateurs; and thus, for instance, the subject of styles has met with very rough treatment, and even a new style has been proclaimed as the pressing want of the day, which is as much as saying that a new language is necessary to enable modern Europeans to produce noble works of literature.

"Style" seems to have been a great curse with many, yet every genuine variety of style demands admiration, inasmuch as no work possesses the quality of style until it has arrived at the condition of beauty. There may be better styles than others, and styles that are more suited for one purpose than another, also styles of greater purity, and styles of greater exaltation than others. These then—all these will be received by the genuine lover of art with feelings of appreciation, and here it must be admitted that the faculty of *appreciation* is not always as strong in the practical artist as in the amateur or the critic, and perhaps this arises from the wider range taken over the domain of art by the two latter than by the artist, who is sometimes absorbed in his own peculiar walk, and has neither the leisure nor the inclination to study with equal favour the numerous branches into which art is divided.

Appreciation is itself an art, and it is honest, discriminating, generous, full of love, full of faith, seeking for excellencies rather than for defects. Many instances of the want of it have however occurred, such as when a really good building has been put into the hands of an architect to alter, he has disregarded the excellencies of the older building, and has engrafted upon it his own mode and method with an apparent carelessness about the style and beauty of the original.

But to our point more strictly—the skilled workman is a most valuable auxiliary to art; yet it is self-evident that he whose range of vision is confined to a particular portion only of that workmanship which makes up the total of a building cannot in any way be fit to conduct the large complication of workmanship combined in a fine architectural edifice. The whole subject opens the inquiry as to whether the architect of the present day, as an *artist*, is not too much mixed up with mere business transactions, and whether these do not impair his knowledge and skill in Fine Art; but, be that as it may, there can be no doubt that the practising architect is far more likely to appreciate—that is to say, to understand—good art than any workman whatever. An architect is a workman of a peculiar sort—no men work harder—but he should have less anxious responsibility, and be rewarded by a fuller appreciation of his skill.

ILLUSTRATIONS.

CRYSTAL PALACE DISTRICT CEMETERY.

WE give illustrations this week of the buildings now being erected for the new cemetery between Anerley and Elmer's End. The chapels are in Kentish rag, with Bath stone dressings and tiled roofs; the insides lined with plain and diaper-pattern Suffolk bricks, and the woodwork in pitch pine. The lodges are in red bricks, with brown tiled roofs.

The works are being carried out from the designs and under the superintendence of Mr. A. G. HENNELL, of Bedford Row; and Messrs. WILLSON BROS. are the contractors for the buildings. The wrought-iron entrance-gates and other ornamental ironwork will be supplied by Messrs. RICHARDSON, SLADE & Co., of Brownlow Street.

The laying-out of the grounds is now in a forward state, and it is expected that the whole will be completed and the cemetery opened early in the autumn. Messrs. WOODHAM BROS., Elmer's End, are the contractors for the ground work.

HOPE STREET BAPTIST CHURCH, GLASGOW.

DESIGNS were recently submitted by the following architects in a limited competition for this church, none of which were accepted:—Messrs. R. BALDIE, Glasgow; J. T. COWAN, Glasgow; HUGH BARCLAY, Glasgow; CAMPBELL DOUGLAS & SELLARS, Glasgow; BRUER & STURROCK, Glasgow; T. L. WATSON, Glasgow; GEO. BAINES, London.

The design we illustrate is by Mr. GEORGE BAINES, of 26 Finsbury Place, London, and Accrington.

COMPETITIONS.

UNDER this heading we propose to give each week, or as often as may be necessary, a brief account of the *conditions* of such competitions as may at the time be open to the profession. In doing so we shall point out such conditions as have been framed in accordance or at variance with the rules agreed upon at the General Conference of 1872; beyond this it will not be our province to go, our object being to help the reader to ascertain (more than an advertisement can) whether the *conditions* of a particular competition are likely to meet with his views, rather than to furnish a reprint of such details of requirements, &c., as he must, after all, obtain for himself. We commence with

Peel Park (Salford) Museum Competition.

In the conditions furnished to competitors we find:—

1. No professional assessor is promised, directly or indirectly.
2. Neither the number nor the scale of the required drawings is stated, and no perspectives are mentioned; "the design must comprise a complete set of finished drawings" is vague.
3. Whether competitors are to send in their names or only mottoes is uncertain. "An approximate estimate of the work must be furnished," but there is no clue whatever as to the approximate amount of the intended outlay.
4. "The Corporation reserve the right of exhibiting the designs to the public" whether before or after the award is not stated.
5. "The architect whose design is selected will be employed to carry out the work on *satisfactory arrangements being made*"—the italics are ours—and no premium, except this chance of employment, is offered.
6. Both conditions and instructions are exceptionally meagre; the latter are accompanied by certain lithographed plans and elevations, but a visit to the place is necessary.

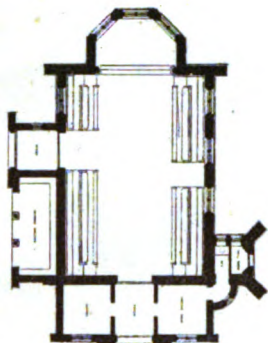
INDIAN ART.

"ART in India" formed the subject of the second of the Haldane series of lectures on Ancient and Modern Art, in course of delivery in Glasgow by Mr. William Simpson, F.R.G.S.

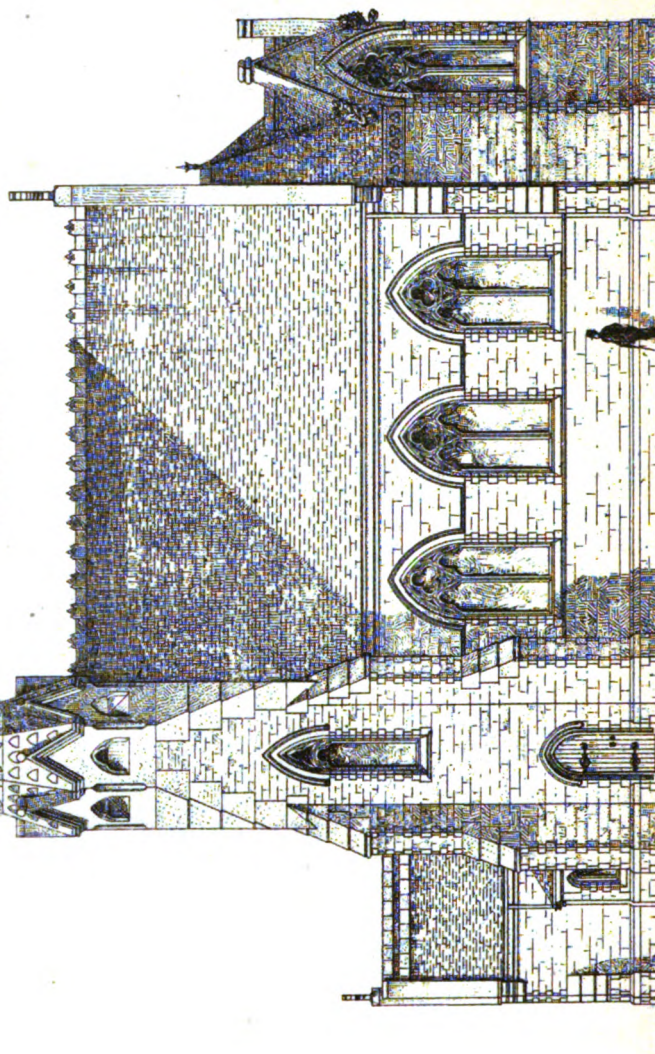
He said that he spent two and a half years in India, during which time he had special facilities for observing many of the more imposing customs of the people, and much that was interesting from an artistic point of view. The architecture of India was supposed by some, he said, to be very ancient, but it was nothing like so old as the Egyptian; indeed, it was now generally believed to date from the time of the first Buddha, about 600 B.C., and to have continued about 1,000 years. The Buddhist remains, which were scattered all over India, were in the form of a mound or cairn, and, like the Egyptian pyramids, were simply tombs. The architecture was more allied to the Chinese than to the Indian architecture of the present day, and seemed to indicate that it had been copied from a race prior to the Aryans. He illustrated the characteristics of these structures, mentioning among other things that the sculpture showed that the Zenana system did not exist at the time they were built. The Brahminical style followed, and in turn it was supplanted by the Mahomedan. The Mahomedans, he remarked, did not bring workmen with them, but employed Hindoos to carry out their designs, and it was curious to note how Indian emblems had been introduced by these men. Coming next to speak of native painters, he told how every Sovereign had a Court artist. These men were very clever at painting portraits, but then these portraits were flat, and lacked the roundness characteristic of European art. The artists did not understand the rise of shadow, and though they were beginning to learn from contact with Europeans, as yet the natives refused to patronise painters who introduced light and shade into their works. Mr. Simpson gave an amusing account of interviews he had with some of these native painters, and concluded by describing the manufacture of Cashmere shawls and the process of ornamenting papier-mache.



PLAN.

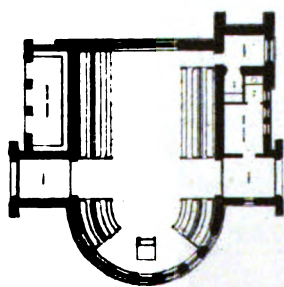


SOUTH ELEVATION.

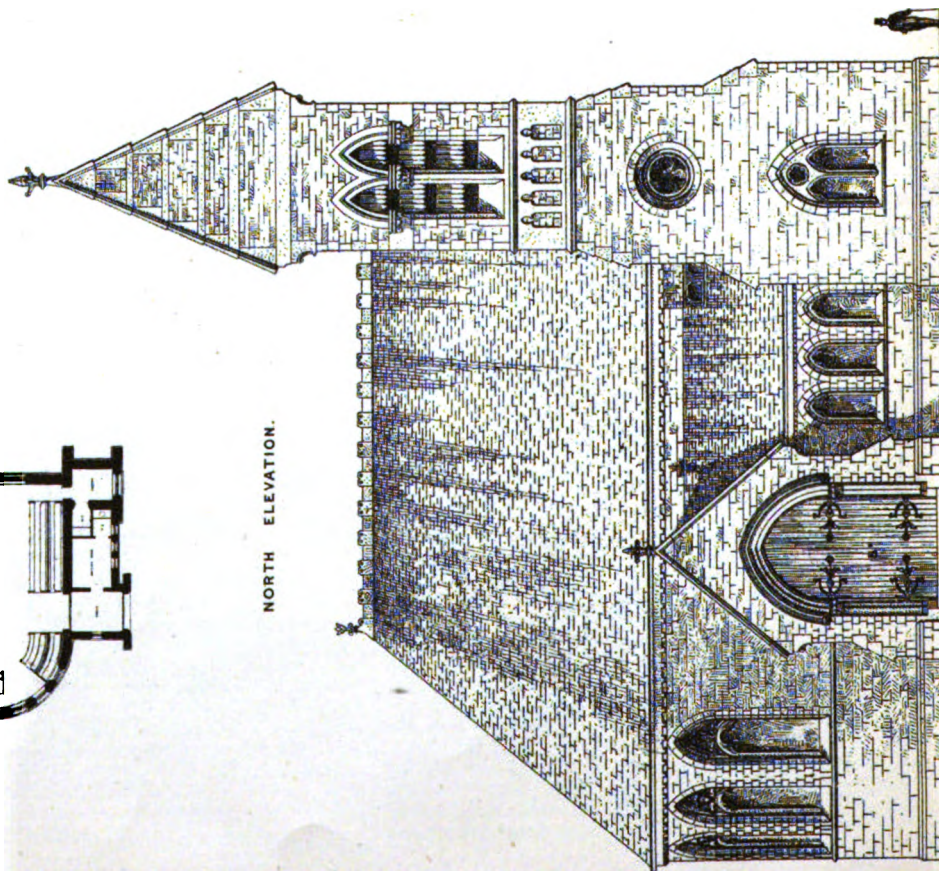


CONSECATED CHAPEL.

PLAN.



NORTH ELEVATION.



UNCONSECATED CHAPEL.

CRYSTAL PALACE DISTRICT CEMETERY, CHAPELS, — A.G. HENNELL, ARCHT.

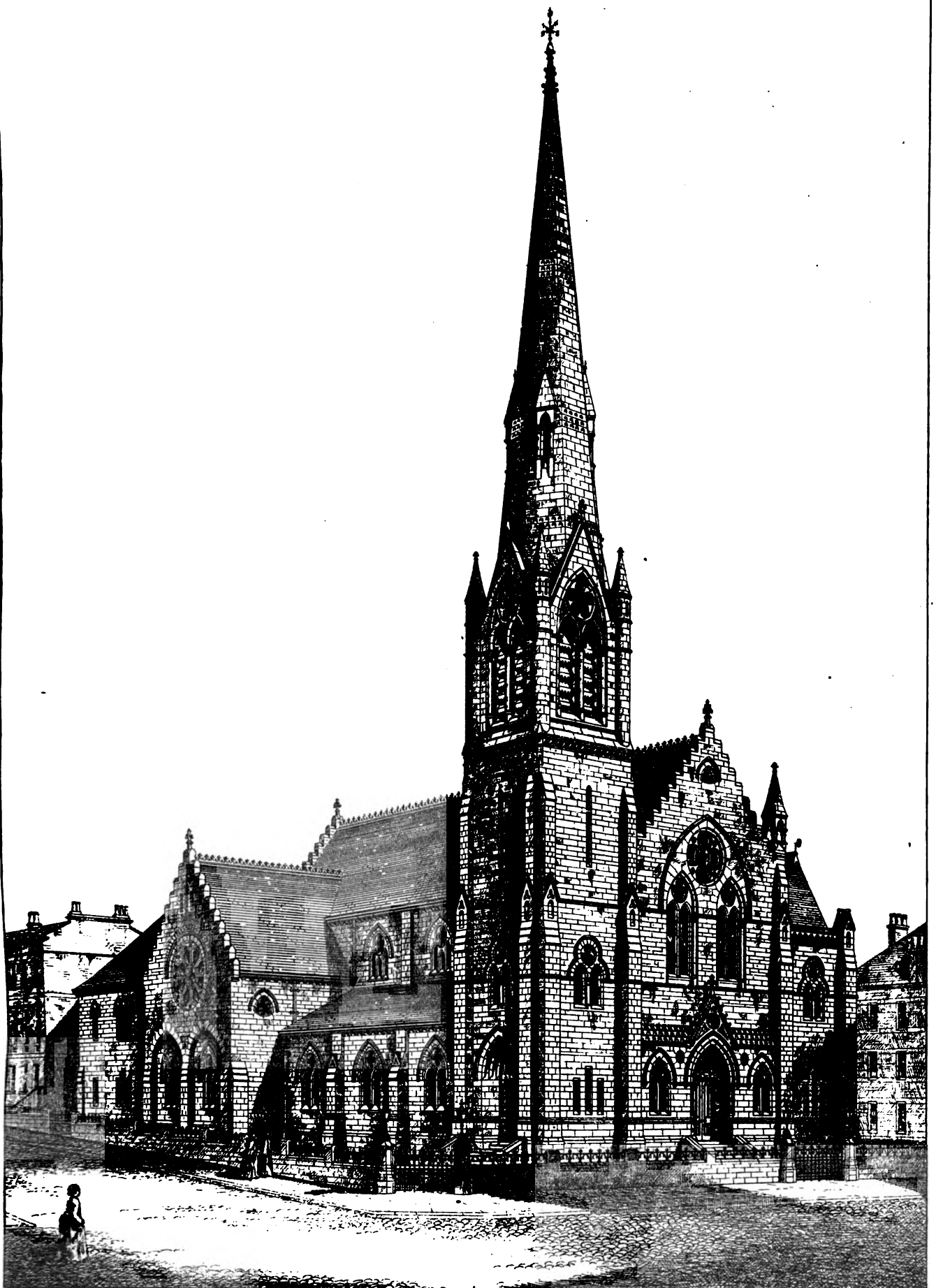
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DESIGN FOR BAPTIST CHAPEL 2^d BATH STREET, GLASGOW.
GEORGE BAINES, ARCHT.

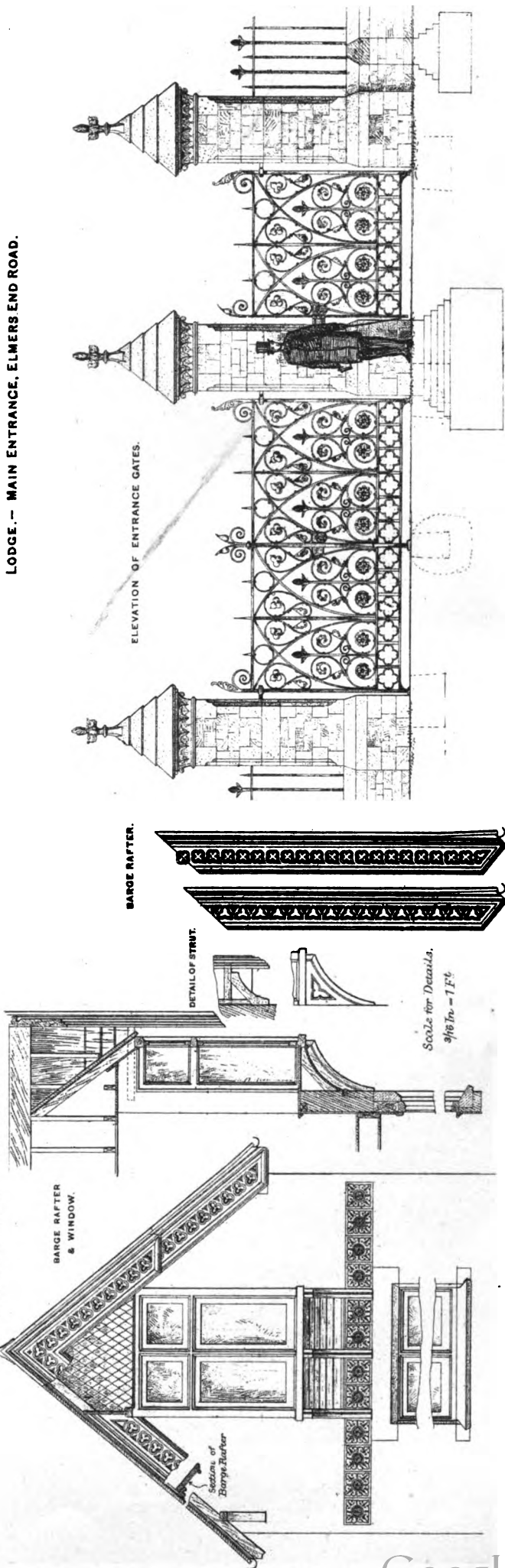
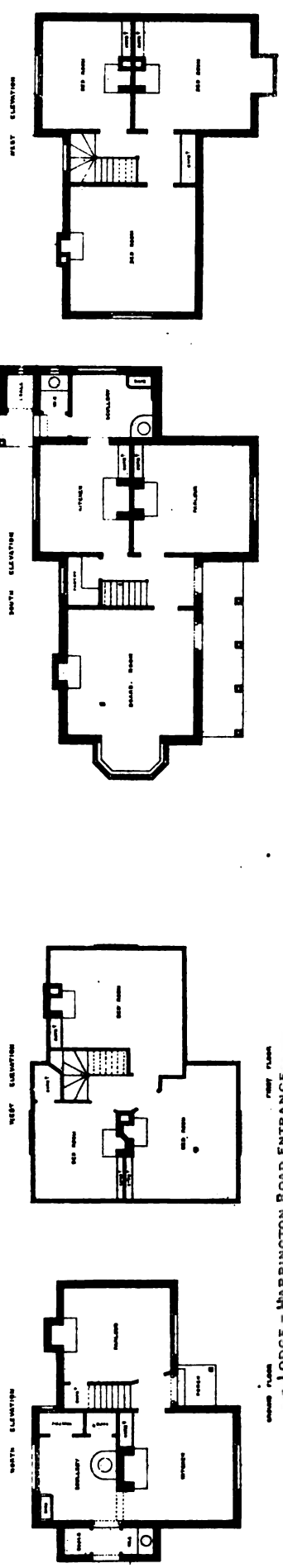
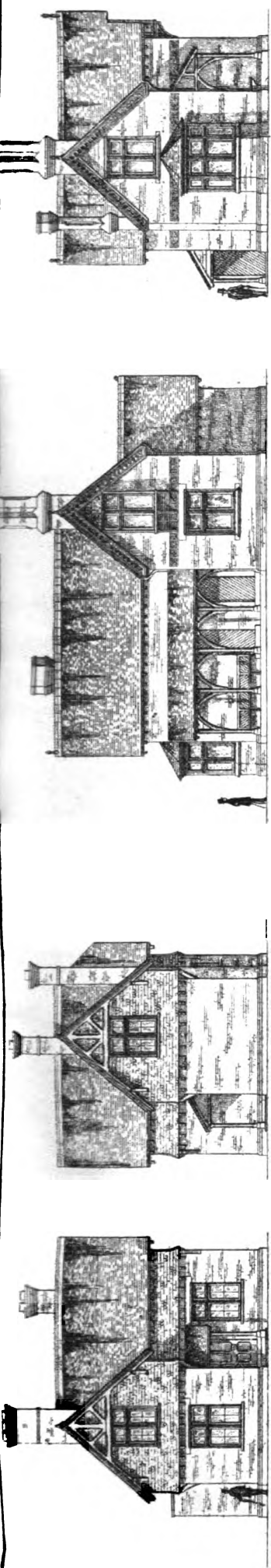


DESIGN FOR BAPTIST CHAPEL 2^d BATH STREET, GLASGOW.
GEORGE BAINES, ARCHITECT.

Printed by W. W. Spence & Co. London. E.C.



CRYSTAL PALACE DISTRICT CEMETERY, LODGES, - A.G. HENNELL, ARCHT.





THE ARCHITECTURAL ASSOCIATION.

AN ordinary meeting was held on the 22nd inst., Mr. G. H. Birch, President, in the chair. Messrs. A. Ardron, John Gibson, jun., T. E. Colcutt, A. W. Cross, W. Renwood, W. E. Brown, S. C. O. Pinchin, and R. M. Driver, were elected members. A vote of thanks was accorded to Mr. Edward M. Barry, R.A., in acknowledgment of the facilities afforded by him on the occasion of the visit recently paid by members to the new buildings of the National Gallery. Mr. Hayes (hon. sec.) called attention to drawings exhibited on the walls, of warehouses lately erected in London by Mr. R. W. Edis, F.S.A., and Mr. J. Douglass Mathews.

Mr. R. H. SODEN SMITH, M.A., F.S.A., then read a Paper
On the Influence of Tradition in the Development of Goldsmiths' Work.

The subject (said Mr. Soden Smith) which I have undertaken to bring before you this evening is one which, as it deals with a class of productions not always included within the province of fine art, I should not, perhaps, have selected for the consideration of this Society had I not been assured that the study of the lesser arts is not deemed outside your province, although, as an Architectural Association, you are united for the promotion and practice of the chief and greatest of the fine arts.

I propose to consider briefly some of the developments of the goldsmiths' art in ancient and Mediæval times; to show the durability of the traditions which influenced it; and to point out that these traditions became, in some instances, the inheritance of races who had triumphed over those from whom the knowledge was originally derived.

Goldsmiths' art cannot, at present, be said to have a history; other arts are more fortunate. There is a bulky and important work known as the "History of Art by its Monuments," but in the case of that with which we have to do, its monuments, minute, rare, and precious, are themselves its history; and it is only after close personal study of these often exquisite works that we can arrive at satisfactory knowledge of the processes and development of the art.

The earliest goldsmiths' work to which we can assign a pretty accurate date is that of the Egyptians, and no other is more strongly and peculiarly characterised. In no other is the influence of early tradition more apparent or more durable. Like all the art of that wonderful people, their goldsmiths' work is conceived in a spirit that makes it unlike any other in the world; its conception is also carried out with a skill, power, and completeness which has never been surpassed, proving that the Egyptian workers in precious metals were not less masters of their tools than their fellow-artists who wrought in the hardest basalt and the most stubborn varieties of porphyry. The antecedents of their art we are ignorant of. When we first become acquainted with it—and some specimens extant are probably more than 3,600 years old—its character is fixed, and its processes almost perfect. Already the tradition which was to endure nearly 2,000 years longer had asserted its authority. Conceptions possibly derived from distant and diverse nations had been assimilated, modified, and finally fettered in Egyptian fetters. The real work was already done, the track cleared, and bounds set up and fixed to prevent any straying away of too exuberant fancy, and most wonderful is the mastery of technical processes which was attained, and this 1,800 years before the Christian era. We would give much to know what preceded that fixed tradition and consummate skill.

When we look closely into the matter, a few considerations occur. In Egyptian jewellery, including the most ancient, an effect of decoration evidently much relied upon for producing the gorgeous hues which they loved is given by a tessellation or inlay of brilliantly-coloured stones, jaspers, agates, lapis lazuli, &c., or by glass pastes to imitate still brighter colours. These are harmonised with judgment, and the pieces fitted with excellent skill into partitions or cloisons of gold, each portion often shaped as best suits the requirements of the design. Such are some of the jewels which came to light when, among the tombs of Thebes, the rich coffin of an ancient Egyptian queen was fortunately discovered. This was in 1859, and the gorgeously-decorated case was found to contain the mummy of the Queen, Aah Hotep, wife of the monarch Kames, the date being at least 1800 B.C. The jewels deposited in the mummy case are most splendid, and were royal insignia probably buried with the queen's body by order of her son, as his name, Aahmes, occurs on some of them. They included a diadem of gold, a pectoral plate, bracelets, chains, poniards, and other gorgeous objects, and the workmanship upon them is of the most complete and admirable character. I specially mention them because they offer remarkable examples of the rich inlay work in stones and coloured-pastes to which I have just alluded. In fact, the finest of these jewels depend for their splendour of effect chiefly on this ingenious and richly-coloured ornament. The pectoral plate and some of the bracelets are almost entirely composed of it, and on one of the latter is a representation of a vulture formed of a cloisonné mosaic of lapis lazuli, carnelian, and coloured glass paste. Besides these examples, there is in the Louvre a fine specimen of similar work, and in the British Museum are several jewels showing the use of the same process.

Now it appears to me that such a method of decoration as this is likely to have had its origin in a land where precious stones abounded, and that a love of gorgeous colour found its expression in their use, such a tradition being carried to a country where the more splendid gems do not exist, as is the case with Egypt; the artists who received it set themselves to produce similar effects by the use of imitative glass pastes of the richest hues they could obtain. If this be so, it would be to the East, probably to India, that we should turn for the origin of such a tradition. However the fact may be, and from whatever source Egypt may have obtained her goldsmiths' processes, it is undoubted and most remarkable that at the remote period to which these works belong an excellence was already arrived at which, in some respects, has never been surpassed in any age or in any country. This praise of their work is justified, to take an example, by the treatment of a pendant (exhibited), in form of a scarabæus, which was attached to an exquisitely wrought chain among the jewels of that ancient

queen. Nothing can exceed the skill of the workmanship of this remarkable object; not even the Greeks, of whom we have shortly to speak, could go beyond the perfection with which the design is carried out.

(As illustrating the delicacy and beauty of Egyptian workmanship, Mr. Soden Smith mentioned that in each of the delicate little pendants, which he exhibited, were 54,000 granules of gold soldered in separately.)

Assyrian goldsmiths' work might well come next after Egyptian under our consideration, but that the means of knowledge at our command are not sufficient for my present purpose. That they worked largely in the precious metals we know, lavishly indeed, and on a magnificent scale; but their gorgeous works have perished, and not enough remains to enable us to trace the history and development of their labour in gold as we can that of their sculpture and various kindred arts. The tradition of their splendour has an Oriental stateliness about it that kindles the imagination—the couches, and tables, and thrones of gold, the statues and palaces overlaid with gold, all the pomp of personal adornment of jewels, and collars and crowns of precious materials; but we turn away from these things, which are now little more than a vision, to delve our antiquarian way through piles of ruin and vast mounds of almost undistinguishable desolation.

Passing then from these ancient nations, we come to that seafaring race who had possessed themselves of the carrying trade of the ancient world—I mean the Phœnicians, as they were, if not the originators, at least the disseminators of much knowledge of metal-working processes. Their own art, as far as we know it, shows little that is original, but is influenced in the first degree by traditions of Egyptian work, and also in a less measure by Assyrian, Etruscan, and Persian motives—later in their history by Greek. I had at one time in my possession a gold ring which, minute as it was, afforded a curious justification of this remark. It had a general character of Egyptian design, and there was on its bezel a representation of the sacred boat; but this ornament was executed in granulated work resembling that of the Etruscan goldsmiths, while in some minute points an Oriental influence seemed to be traceable. This ring, I subsequently discovered, had been found in a Phœnician tomb at Tharras, in the island of Sardinia. As the Phœnicians made their influence felt along the shores of the Mediterranean and beyond it, so they carried to their scattered settlements or trading-places the traditions of nations of an organisation different from, and more artistic than, their own. They themselves seem to have possessed no strong art-individuality, but rather to have reflected what they received from others; thus objects of their workmanship often present a perplexing problem to the student, and cannot at times be identified with certainty as of truly Phœnician production, except with the external aid derivable from the circumstances and conditions of their discovery.

Among the nations that profited by Egyptian tradition pre-eminent above all were the Greeks; the tradition was filtered doubtless by Phœnician intervention and by Asiatic influences, nevertheless it had in it the seed of vitality, which characterises all true art. We shall, therefore, pause a few moments to touch upon some of the qualities by which Greek goldsmiths' work is distinguished—(1) the skill to which they attained in the processes they employed, for it is in these especially that the influence of tradition is potent and durable. Their soldering or some analogous process, the methods of which may possibly have reached them from India, was brought to extraordinary perfection. The ease and certainty they seem to have arrived at in some of its most difficult applications gave a special character of delicacy and refinement to the details of their work. By a manipulative skill which has never been surpassed they succeeded in clothing surfaces with a dust of golden granules too minute to be discriminated by ordinary sight, which produced a sense of richness, a warmth of colour, if I may be allowed the expression, unattainable by any other method. To one uneducated in the study of these processes it may appear—and the observation has often been made to me—that an equal effect could be attained by casting or chasing at a much less expenditure of time and labour. But it is not so; casting, however dexterous, is clumsy in comparison, and the result is wanting in the clearness, the light and shade of the original method. Chasing produces an effect, but of a different nature. The Greeks in elaborating and perfecting their difficult process were not merely exhibiting a *tour de force* of manipulative dexterity, but were aiming at a result to which their true artistic sense directed them. We owe it to the well-instructed skill of a modern artist in gold that within the last few years this most delicate process of decorating surfaces with granules of gold has been re-discovered, and is now practised with admirable success.

The beaten-up or *repoussé* work of the Greeks also exhibits the utmost excellence—I speak now of processes, not of design, in which Greek pre-eminence has been readily admitted. The truth, sharpness, and artistic emphasis of their beaten work shows at times so entire a mastery of the process that no perception of its difficulties remains to distract attention from the result. The examination of any considerable collection of Greek work will justify this praise, for, though productions of the finest period are rare, and moreover we cannot suppose that the very best have come down to us, yet enough remain in such collections as that of the British Museum, the South Kensington Collection, and the Louvre, to amply repay the most careful study, and to convince the student how difficult it is to rival their skill.

In surface chasing also the Greeks greatly excelled, and the results of this process, as but little technical knowledge is required to appreciate them, impress the usual observer more than those attained by the difficult soldering and beaten work of which I have spoken. Their chasing is indeed admirable. It exhibits the freedom and mastery which prove that all technical difficulties had been overcome, together with the delicacy and control which belong to work which is felt and not merely executed. It is when studying these seemingly minute points and appreciating their results that one feels the almost immeasurable distance between the ancient Greek artist in gold and too many of our countrymen working in the precious metals, who supply the modern market with its popular wares. Indications there happily are of a better taste, and I rejoice to know of some who have taken a long stride beyond the senseless rubbish of golden padlocks,

horsehoofs and fetters, valued by their weight in metal, and hung in garish profusion on the costume of some who might be leaders of taste if not of fashion.

But beyond even this excellent skill in surface chasing is the work of these incomparable artists in intaglio cutting in gold. Many, no doubt, of these intaglios—I allude chiefly to those occurring in finger rings formed wholly of gold—are rather sketches than elaborately finished works, and on the mortuary rings the indications of figures are often slight and rude, but occasionally intaglios in gold occur of extraordinary excellence, worthy of the artists who produced in the harder metal of their coin dies the finest work of its special kind that the world has ever seen. A Greek intaglio is indeed a wonderful production; and while we note with astonishment the mastery they possessed over the stubborn materials of sard or even sapphire, we feel how completely the comparatively soft gold must have been under their control. Moreover, the gold they employed when obtained from Transylvania, no alloy being added, was wholly pure, that gold having the least portion of natural alloy of any that is known.

Among my collections of finger-rings is one now exhibited of early Greek work, and doubtless made from the gold I have mentioned, for when its specific gravity was taken by my friend, Professor Church, it proved to have only the trace of natural alloy which ordinarily belongs to the gold of Transylvania. Such being the material they employed, we may well regret, though we cannot be surprised, that it is rare indeed to find their gold intaglios in such a state of preservation as fairly to represent the artist's original work.

Lastly, I may mention their skill in the production of woven wirework and the refinement and delicacy with which they employed it, so as to take full advantage of its surface, penetrated by light in its minute interstices, and the indefinable grace which it adds to designs that might otherwise have wanted somewhat of the peculiar justness of proportion and freedom at which they aimed.

Passing from Greek art, I propose to touch next on that of the Etruscans. A strict chronological order would have justified their being mentioned previously, but as the Greek tradition of work was linked on to that of Egypt I found it more convenient to trace it as I have done.

The origin of Etruscan art in general is a question so difficult that no satisfactory solution of it has yet been offered, and in that special branch of it with which we have at present to do their skill was such that the inquiry respecting the sources of their knowledge becomes peculiarly interesting. Their singular skill as goldsmiths has long been acknowledged by those who have paid close attention to these inquiries, and owing to the fact that their sepulchres were respected, perhaps sometimes not discovered, by their Roman conquerors, and that in these sepulchres were often deposited treasures of the jewellers' art, we have the means of becoming more familiar with their goldsmiths' work than with that of any other nation of antiquity.

They were masters of the various processes of casting, beating-up, or *repoussé*, soldering, wire-drawing, and plating. Especially they availed themselves with skilful judgment of the ductility of the metal; their twisted wire-work, therefore, used as an enrichment of surfaces, is delicate and elegant, while their fine wire-chains are admirably woven. They also possessed the art of clothing surfaces of the metal with a gold dust of the most minute granules, and in the practice of this difficult work they were scarcely inferior to the Greeks. It is probable that the same tradition taught this peculiar process to both nations, but we have at present no certainty, though we may form some conjecture, as to whence it was derived. At all events, in the hands of these ancient artists it was brought to perfection; rounded and otherwise varied surfaces were covered, and various designs of ornament successfully indicated. I have already alluded to the re-discovery of this process, and it may be interesting to mention, as an illustration of the permanence of the traditions of goldsmiths' work, that it seems never to have been wholly lost, for in the less frequented parts of central Italy workmen were found, possibly of the race of the ancient Etruscans, who still wrought in the precious metals, using some such method as that described, and retaining such manipulative skill that their aid was of value in the revival of the antique forms of jewellery. This fact also illustrates the truth too often neglected or overlooked, that skill which requires peculiar powers of sight and touch has a tendency to become hereditary.

The beaten work of the Etruscans is often very remarkable, and, as their gold is usually employed thin, they had much recourse to this very effective method of giving richness, variety, and play of light to its surface. Many of the ear-rings are exquisite specimens of this kind of work, combined with the corded and beaded decoration, which they also used with excellent judgment and effect; on the broad bezels of their finger rings *repoussé* work is also effectively employed. On the whole, ingenuity and elaboration of design, great richness of general effect, together with minuteness and dexterity of manipulation, characterise their goldsmiths' work. The influence of very ancient traditions, external to them as a Tuscan people, is apparent, and, as at all periods their art seems to have been receptive rather than inventive, the effect of Greek intercourse becomes ultimately more or less obvious. It seems beyond doubt that early Egyptian traditions gave a character to their art, the points of resemblance being, in certain directions, frequent and striking. Another influence is traceable, which seems derived from Asia, pervading not alone the minute objects under our consideration, but their own art sufficiently to have induced some inquirers to refer to eastern lands the origin of the nation itself.

Next to the Etruscans it would seem most natural to consider the development of goldsmiths' art among the Romans, but this great conquering nation cannot be truly said to have had any art of their own; they emerged from the barbarism of their origin by the aid of the Latins and Etruscans whom they subdued; the African luxury of Carthage next told upon them, and finally the arts of conquered Greece subdued them; but in all this there is nothing that aids our present inquiry. Whenever good artistic work is shown to have emanated from ancient Rome, we call it Greco-Roman, recognising in it the hand of the subtle and adaptable Greek, who found it suited well with the fallen fortunes of his race and nation to make his home in the imperial city and to trade upon his art—

instincts which, even among the vulgar Trimalchios of the day, it had become the fashion to patronise. If, therefore, I casually speak of a Roman tradition of work, I would be understood to mean work which may have been born, so to speak, in Rome, but of foreign parentage, a tradition which remained the property of aliens, and whose practice and development continued in their hands.

Byzantine goldsmiths' art would seem to present another example of the predominance of foreign influence, but it essentially differs from Roman in that the traditions may be said to have taken root, coalesced, and produced a sufficiently marked and individualised result. For our present inquiry, however, unless time permitted me to work out the subject in detail, the chief interest of Byzantine Art is that through it one element of Oriental tradition chiefly made its way into Western Europe. No doubt the Gothic nations, spreading to Spain in the one direction, to Scandinavia in the other, carried with them the strong orientalism of their semi-barbaric art; but this was different in motive and character from that of Byzantium, and, moreover, for a time it yielded to the influence of the latter. Perhaps nothing can so aptly illustrate the combination of the two than a reference to the astonishing mass of golden spoil discovered in Roumania in 1837, and called the Treasure of Petrossa. The circumstances attending the discovery of this treasure were remarkable. Some peasants came upon it accidentally, but it came to the knowledge of the Government, who sent down and distributed punishments among the parties concerned with great liberality. Of the very remarkable objects included in the treasure the published photographs will enable you well to judge; there are, moreover, electrotypic reproductions at the South Kensington Museum. Their intrinsic value was great, one golden salver being worth in weight of metal nearly 1,000*l.* But their archaeological importance was still greater. They include Byzantine work in which the tradition of classic art remains, overlaid with Oriental influence, and they also exhibit gorgeous but barbaric specimens of the jewellery of the Gothic tribes that overran the ancient Dacia. These latter objects are characterised by an enrichment of inlay work composed of slices of garnets and various coloured glass pastes: to this peculiar kind of ornament we shall presently have occasion to allude further.

Another treasure-trove of priceless value also illustrates this combination of Gothic with Byzantine Art traditions: I allude to the votive crowns of gold discovered in 1857 at Guarrazar, near Toledo, some of which are now preserved in the Cluny Museum, Paris, and one in the Royal Museum at Madrid. The date of these is fixed with certainty, as the name of Receswinthus, a Gothic King of Spain, occurs on one of the crowns, and he died in A.D. 672. The Byzantine influence that continued during his period is indicated not only by peculiarities in the workmanship of these most remarkable objects, but also by the occurrence of the Greek θ in the spelling of this king's name on one of his coins.

In the pendant letters attached to one of these crowns we find the same enrichment of thin pieces of garnet and glass pastes already noticed in the Petrossa jewels; this, as we shall see, was a kind of ornament long and widely employed.

Our sketch, necessarily hasty, has now brought us down to the Mediæval period, and curious paths of inquiry extend in many directions; it may be sufficient to track one. A ring which I have the pleasure of exhibiting may serve as a text, it being a type of extreme rarity. It was found last summer in Bedfordshire, and is of Merovingian work, dating from about the seventh century. It is of pure gold, ornamented with beaded work, and pellets of gold soldered on; the stone, probably a cabuchion gem that was set in the bezel, is lost; on either side on the shoulders of the ring, to speak technically, is a very interesting and peculiar kind of enrichment, analogous to that mentioned in the Gothic work at Petrossa and at Toledo; minute portions of coloured vitreous pastes are inserted between cloisons of gold; they are in colour yellow and deep greenish blue; they do not appear to be enamel, which would be fused into its position, but rather are inserted and held by the delicate partitions of gold. These partitions are not chased out of the solid gold of the ring, but seem to be soldered on for the purpose of receiving and holding the portions of vitreous material placed within them.

It is to this method of enrichment I desire to call your attention, because it furnishes one of the most curious illustrations which I know of the durable nature of traditional processes in goldsmiths' work, and the consequent influence exerted on the quality and fashion of work during many generations. For this is precisely the same principle of work which we have seen practised in Egypt at the period of the seventeenth dynasty, and there we know the tradition remained long unbroken. Did the Phenicians possess themselves of the process, and carry it to those who are described as barbarians beside the ocean? For, in addition to the knowledge of enamel which these rude people possessed, we find objects dating from the Celtic period, enriched with a sort of tessellation of minute portions of glass pastes. Again, in the mixed mass of treasure, Byzantine and Gothic, which we have mentioned as found at Petrossa, the same well-characterised and peculiar style of ornament reappears, portions of garnet as well as vitreous paste being used to fill the minute golden partitions. Another link in the chain, and that a most important one, is furnished by the objects of extraordinary interest and importance which were found in the grave of Childeric I., second king of the Merovingian Dynasty, who died A.D. 481, and was buried at Tournay. The story of the discovery of the forgotten grave is a strange one, and almost like the stories in the "Arabian Nights." A mule-driver was passing that way at night with the string of mules, and as the moon was shining he saw something bright in the road. He found it was a golden crown, and this led to his grubbing in the bed of the adjacent torrent, and to the discovery of Childeric's grave. Among the personal ornaments were several enriched with the kind of work we are now considering; the golden beads which were supposed to have adorned his royal mantle were inlaid with portions of garnet or glass paste. From this time forward the links in the chain are sufficiently continuous to show that the tradition of the process was never lost. It is not difficult to cite examples—such as the objects found in 1842 in Champagne, and now preserved in the Museum at Troyes, among

them sword and dagger hilts richly decorated with the same inlaid work; the Diptych or Theca aurea of Theodelind preserved in the treasury of the Cathedral at Monza; the treasure already mentioned as found at Guarrazar; various smaller objects, such as the finger-ring which you have before you, and other rings in the South Kensington Collection and elsewhere, enriched in a style less rare, with slices of garnet or garnet-coloured pastes—till we come to the Anglo-Saxon Period, when we find this inlay a favourite ornament for their gorgeous dish-shaped brooches and their large bronze gilt fibulae. In the Faucett College, at Liverpool, is a splendid example of the former, found as they chiefly have been in Kent; the other fibulae are represented in every considerable collection of Saxon antiquities.

Passing from the Saxon Period, we find the tradition of this ornament lingering among the Scandinavian goldsmiths. We also find that it has never been wholly lost in Spain, and that to a very late period it was practised in the Tyrol, in Hungary, and in Albania, and in a modified form has scarcely yet died out.

With this illustration I propose to conclude my observations, merely adding the following general result:—The effect of tradition on goldsmiths' work is, first, to perfect processes as long as the real life of a nation endures; afterwards, to induce imitations of the more difficult processes intended to save labour, and satisfy or deceive the superficial eye; and, lastly, to check invention.

Before sitting down, Mr. Soden Smith described a few of the peculiarities of the objects in the case (exhibited), and acknowledged the courtesy of Signor Giuliano in contributing to the collection.

The CHAIRMAN said he agreed with Mr. Soden Smith as to the importance of studying goldsmiths' work, and mentioned that he had a little experienced the value of having studied the subject in connection with a design that he had carried out. Allusion had been made to the beautiful work in the British Museum, but it was arranged in such an extraordinary manner as to possess but little value for reference; and he wished that opportunity existed for studying the art in all its branches, and tracing it from school to school.

Mr. H. H. STANNAS, in rising to propose a vote of thanks to Mr. Soden Smith, said: Although the subject is not strictly an architectural one, yet it offers so many points of contact that it is very interesting to architects, and one may well give some attention to it. I suppose I am, like the great majority of gentlemen present, unable to cast any additional light on the subject; but I would add some remarks corroborative of those of Mr. Soden Smith. In thinking over the various operations in fashioning the precious metals, the thought arises that the man who invented the process called soldering may be called with justice the father of gold-working. He stands in the same relation towards goldsmiths' work as the man who first thought of rib-vaulting stands towards Gothic architecture. Before the invention recourse appears to have been had to rivetting, but it is easy to see that many of the beautiful effects shown in the Etruscan and other work could only have been obtained by soldering. Mr. Soden Smith spoke about cloisonné work. I might venture to explain the difference between this and cloisonné enamel. In the two kinds of enamel, "cloisonné" and "champlevé," the former is produced by superadded "cloisonnage" or partitions, the latter by having the ground lifted and removed. In the former process thin strips or partitions of metal are soldered to the body of the work. These are arranged to form little "lakes" or "dykes," according to the pattern to be produced. The different lakes are then filled with powdered glass of the proper colours required, and heat is applied, which fuses the glass in each compartment, and causes it to flow over the surface, and become a thin covering of glass over the metal groundwork. When the whole work has been thus gone over it is rubbed down to an even surface and polished. In champlevé work, on the contrary, the colours are cut or rubbed to the required shapes out of thin pieces of glass or precious stone, and inlaid in the compartments formed as I have before described. Another point to which I would beg to draw attention is Mr. Smith's statement of the Etruscan method of working having descended hereditarily. I might mention that when at Perugia, some little time ago, I saw, in some small shop windows, most beautiful reproductions and specimens of goldsmiths' work, especially in the minute twisted wire-work tracery, and in the "granello" work which characterised the old Etruscan jewellery, which have since been successfully attempted in the modern reproductions, by Signor Castellani, of Rome. And, when we bear in mind that this place was one of the chief Etruscan cities, we see how natural it is that the vernacular style of work should have descended in families, till some of the workmen mentioned as employed by Castellani may be direct descendants of the aurifices of the older times. There has been in all early times a disposition to keep certain processes and manufactures as trade secrets in families as much as possible. One sees this in the "lustres" of the Gubbio pottery, and other analogous cases. This was always likely while they had no patent laws to protect them, and while the powers of the trade guilds were so strong; but it would always have the effect, deprecated by Mr. Smith, of checking invention.

Mr. E. G. HAYES seconded the motion.

Mr. SODEN SMITH briefly replied, and stated that he had avoided dealing with the subject of enamels because it was so wide, and would, by opening up another field of thought and antiquarian research, have complicated the matter too much. The first translucent enamels we had in Europe were the Byzantine, and they were used with singular skill and effect from the seventh and eighth century down to the fifteenth or sixteenth century.

Before the meeting separated Mr. HAYES said he had omitted to call attention, at the opening of the meeting, to a very interesting sketch, contributed by Mr. H. H. STATHAM, of St. Paul's Cathedral, as viewed from the Blackfriars Station of the Underground Railway.

Mr. STATHAM said he was not prepared for any public allusion to his sketch, but it might serve to illustrate the combination of the real and the ideal.

JEAN FRANCOIS MILLET.

THIS famous French artist died at Barbison on the 20th inst. The following letter, by Mr. Henry Wallis, on some of his late works, appeared in the *Times*:—

The late M. Millet, besides being a landscape painter, was a great figure painter. In the opinion of many, and those not the admirers of the newest phase of French art, the Courbet-Manet-Corot school, he was the first French painter of his time. Certainly the French school has never produced an artist with such thorough devotion to nature, or who has so truthfully rendered scenes and emotions of natural life. His works have nothing theatrical or cynical about them. To an Englishman they are suggestive of the poetry and sentiment of Burns, and the sympathetic feeling for nature of Wordsworth. He had the art of introducing into pictures of modern French pastoral life, while retaining the truthfulness of nature, all the elevated qualities of the best artistic culture to be found in the works of the great masters. Those who remember the *Angelus du Soir* in the Exposition of 1867 well know this is no exaggeration. The picture represented a couple of peasants, man and woman, who, while at work in the field, hear the bell of the distant church tolling the *Angelus*. They stop work, reverently bending their heads in silent prayer. For expression of devotion equally genuine we must go back to the works of the early Italian masters.

Many readers who delighted in Millet's works will probably be interested in hearing of some of the pictures he was last engaged on, but of which few, alas! we may hope were quite completed. For he kept his works long in the studio, always endeavouring to make them as perfect as possible, not only in execution, but in their sentiment. I remember him showing me a picture of a village church in Normandy, the one in which he was christened. On my speaking of it as completed, "No," he said, "there is an impression of this scene as it struck my imagination when a child which I have not succeeded in rendering, but which I hope to get some day."

Barbison is one of those French villages we know so well, a long street of cottages and small farmhouses, with their picturesque *basse-cours*. At the top of the village, approaching the Forest of Fontainebleau, is a range of modest buildings, one of which has a large window. This is the residence and studio of Millet. One day last autumn, being at Barbison, I sent my card to M. Millet, and asked permission to see any work he might have finished. He very kindly acceded to my request, and led the way along a shaded alley to his studio. His appearance was decidedly more provincial than Parisian. He wore a straw hat, loose shooting coat and *sabots*. His manner was especially courteous and genial, though very quiet. He gave me the impression of being nearer 50 than 60 years of age.

The picture on his easel represented an old farmhouse in Normandy, in which were visible traces of Gothic windows and buttresses; in front was some broken ground with implements of labour, in the distance the sea. The charm of the picture was in the sentiment of sunny repose in which the old moss and lichen covered house was steeped. Seeing the respect I had for his work, Millet then produced a series of pictures he had in progress, but which space forbids me to more than briefly notice, the hints will be sufficient for those who know his pictures. Among the figure subjects were two lovely little idyls—one a shepherd girl leading home her sheep; girl and sheep and landscape all flushed in rosy light. The second, a boy on a bank blowing his horn to call the cows; the figure was relieved against a sunset sky. A very striking work represented an orchard in spring time; the sun was shining on the near objects and middle distance, over which the rain had just passed; on the dark stormy sky shone a double rainbow. A stormy landscape was also a subject, representing sheep being driven to shelter under the cover of haystacks. I must not omit a noble composition of which the scene was laid in an autumn field on a warm sunny afternoon. Women are bringing sheaves of corn to the thrashing ground, around which are ranged a score or so of thrashers. This group for varied and spirited action is marvellous, and it suggested an orchestra executing an *allegro* motive in a symphony of Beethoven; behind, straw is being burnt, the huge wreath of smoke giving additional impressiveness to the composition.

There was a series of works that appeared to me deeply touching even then, when their author stood before me in health and vigour. These were some pictures and drawings made during the late war in the neighbourhood of his birthplace, a village near Cherbourg. In them was reflected the sadness which must have fallen on every patriotic Frenchman during that terrible period. Its expression was, perhaps, most profoundly given in a landscape representing the sea-shore, with a long range of low cliffs, the undulating ground and slightly agitated sea being painted in varied tones of gray, exquisitely harmonious, but inexpressibly mournful.

He seemed to regard with much tenderness a drawing of the house where he was born, very like Burns' cottage, only having an additional storey. "My ancestors were peasants," said he, "and I was born a peasant."

Herein was the secret of his success, and of his power in reaching the hearts of men. He painted what he had known and loved. He studied and first practised his art at Paris; latterly, he seems wholly to have lived in the country, and had even given up exhibiting his pictures at the *Salon*. "The work there," he remarked, "has too much glare and glitter, and too little of the modesty of Nature."

In conclusion, may I suggest that an important work of Millet's would be a welcome addition to the National Gallery? There is no French painter who appeals so strongly to our tastes and sympathies, and whose work would be more valuable as an object of study.

Signor Salvini has discovered that a statue of San Giovannino, which has been found in Pisa, and was supposed to be a work of Donatello's, is the statue referred to by Vasari as executed by Michael Angelo for Lorenzo de Medici.

THE MARQUIS OF BUTE ON ARCHÆOLOGY.

THE Marquis of Bute has delivered a lecture on "The Residence of King Robert Bruce at Cardross" to the members of the Rothesay Literary Association. He commenced by saying:—The immediate neighbourhood of this place is one of which we can have no complaint that it is devoid of points of historical interest. Taking for granted, as it is taken for granted by all perhaps more and more every day, the immense value of history, and the entire truth of the saying of Mr. Gladstone at a certain Eisteddfod in Wales, that there is no greater folly than a tendency to undervalue the past, we may well congratulate ourselves that the land and sea of and around this little country are not merely inert and dumb masses of matter. They possess a kind of soul of their own, which makes them live with the life of the past, that life which is indeed, if we come to think of it, only the life of the present in an earlier stage, and so by looking up the past, of which they were the witnesses, we are able to make them live to us as they would not otherwise do, to shed upon them a beautiful and a useful glory which the mere superficial picturesqueness of earth and water can never possess, and they themselves contribute to the immortality of the departed, which consists in the memory of the survivors, and which is a subjective life, sometimes little less useful than the objective life of struggle and suffering, occasionally only of success and triumph. There is nothing which is perhaps more familiar to most of us than the shore of the parish of Cardross, which stretches towards Helensburgh from the fortified Craig of Dumbarton—that fort of the Briton which is itself an object almost as prominent historically as it is materially. This parish of Cardross was the scene of the last residence and death of Robert I. It was there that the strong body of the hero succumbed to the consequences of privations which he underwent to make us free. It was there that he enjoyed the consciousness which was denied during this life to one greater than he—Sir William Wallace—that they had not contended in vain. It was there that perhaps he gave the strange set of directions which are called his testament. It was there that he gave the direction that, as his bodily eyes had never been given a sight of Canaan, the heart which had loved and longed for it should not be defrauded of it in death, and there accordingly that physical source of his princely life was separated from the body it had sustained so long, to go on the ineffectual pilgrimage from which it came back again to be resolved into its mother-earth in Scotland. Remembering these things, I have thought that a short attempt to put together some of the humble details of the life of the great king might be interesting, such daily details as could be chiefly got from the account book of the Royal Constable of Cardross. It is impossible to make the narration stirring and lively, but the items contain a great quantity of details, showing the Scotland of 550 years ago, which are very curious, as well as a certain number of hints regarding the life and habits of the King, which are invested with interest because they were his and not another's.

After some further remarks his lordship described the King's house:—The site of the house, as pointed out to me by undisputed local tradition, is in the parish of Cardross, just outside the town of Dumbarton. If you pass the bridge over the Leven, and take the road to Cardross, turning to the left at the toll, you come almost immediately upon it. The last building of Dumbarton, so to speak, is a block of three cottages, in a corrupt kind of Gothic style, after the Strawberry Hill order. This stands on the alleged, and indeed probable enough, site of King Robert Bruce's stables; and the style adopted when the buildings were erected in 1790 seems to have been an act of historical zeal, according to a very limited knowledge of what a fourteenth-century stable looked like. Just beyond these constructions a short road to the right leads up to a very prosperous-looking farm called Castle Hill, and at Castle Hill is the site of the little villa in which the great conqueror looked his last upon the day. The country around is plains and undulating fields—at that time, perhaps, wild and beautiful woodlands surrounded the royal residence and gardens. In the midst of the sunniest meadow, the whinstone bursts up and forms an abrupt steep little hill, like a model on a small scale, almost a parody, of the mountainous Craig of Dumbarton, which we are all so familiar with, towering above the swampy estuary of the Leven. The little hill and another isolated mound close to it defies, and will for ever defy, the encroachments of agriculture. It is covered with a thin plantation of oaks, of no great age, with the black masses of the whinstone projecting from the turf among the roots of the trees. In the east end, where it is a little less abrupt, it has been apparently quarried away, and there is a sort of midden for the farm. This hill is said to be the site of the house.

At the first glance it looks as if a sort of terrace had been made along the top at one side, which was very likely the case, and as if this had been reached by a somewhat steep ascent in the middle from the westernmost end. The two parallel ridges would have each borne a building about 20 feet broad and 100 feet long on the higher, and perhaps over 80 feet on the lower. If we imagine these of a couple of storeys high, divided by a court like a narrow wynd, and joined by a cross building at one end and a gate at the other, we shall, I fancy, have made the most probable conjecture with regard to the shape of the house. There is now absolutely nothing of it to be seen, and the farmer who was kind enough to talk to me about it told me he had never seen any trace of building. The loose stones lying about may, or may not, have formed part of the walls built without mortar. I saw nothing myself but a few fragments of slates and a wall at the farm end, where they shoot ashes or rubbish, which may, or may not, have partly been a sort of terrace or foundation.

Here, then, lies before antiquarian investigation a search of extraordinary interest. If, as I believe, the house was not a castle, as we generally use the word, but merely a construction mostly of clay and timber, with a mortarless stone base, perhaps a low vaulted ground floor used for cellars, larders, wash-houses, and the upper parts of timber and clay, like those with which the courtyard of Rothesay Castle was once crowded, a careful removal of the turf would in all probability show, as it did elsewhere, the foundation of this house, which was the scene of events which are told of, almost where few or no other things touching Scotland are known.

The work has yet to be attempted. The gentleman to whom the land now belongs is, we hear, in such a state of health as to put these things entirely beyond his reach, and his son is not of age. The fact of nothing remaining to be seen any more than was to be seen at Rothesay is one striking proof, if any more be needed, that the place was not a castle. There is a sort of corrupt notion which some people seem to have, as if the people of the middle ages lived constantly in castles; and probably the name of the place is rather a kind of homage to this notion than the support of it. The only place in the account book of the Chamberlain of Cardross where the place is called a castle is an "item for five watchmen for castle." The details of this and other items were quoted, and the Marquis continued:—The number of these men is so small that it seems evident it was a house that needed only one watchman at night at a time, like many country houses of the present day. The nature of the building is further indicated by the very remarkable entries relating to the additions and improvements made in it by the King. The first entry is—"Received from Humphrey Kirkpatrick, by command of our lord the King, for the building of stone wall, besides the chamber of our lord the King, 53 shillings and fourpence," and "from the same for the workmen 8l. 3s." Here the fact of the wall being stone is put down as if it were peculiar, and, though there are many details afterwards about different buildings, nothing more about stone is said. With a help of this kind, and comparisons with existing houses elsewhere, and notices in contemporary books, we can form a certain kind of notion of what the place was like. The second volume of that most interesting, most learned, and most valuable book by Mr. Parker, "The Domestic Architecture of the Middle Ages," is devoted to this period, and with his help we may form some probable surmises. If we enter the house through a porch, with its strong gates and bars, and perhaps its portcullis hanging over our heads by chains from machinery in the engine-room above, we would probably go through a narrow passage, with porter's rooms on one side, and perhaps the guard-room on the other, and get into a narrow court like a wynd. The lower storey of stone would have been devoted to such office as the larder, where we knew that 61 carcases at a time were wont to hang. An outside stair, probably on the left hand, looking westward, with a penthouse for it, would have brought us to the door of the great hall. Most likely the great hall would be a room about 60 feet long and 20 broad, with 7 or 8 feet at the bottom, cut off by a wooden screen to shut off the open door, and the rougher preparations for serving the dinner. The hall itself would have windows along both sides, and very likely an open fire-place in the middle, and a hearth, with a fire made of peats, of which the Constable used to buy cart-loads. The roof would be open timbers like the inside of the roofs of most modern churches, with a sort of spire or lantern, with pierced windows rising up in the middle of it for the smoke of the fire to go up through, and letting in as little rain and wind as might be helped. Down the sides would be long tables, boards on trestles, put away except at meal times, with benches for the servants. The upper end of the hall would be raised about 6 or 8 inches above the rest, and on the platform would have been the table of the King and the Earl of Moray. This end of the wall would very likely have been hung round with tapestry; and here would have been a sideboard covered with pieces of plate. Here two meals a-day were no doubt served to the whole household from the King downwards—dinner about ten or eleven o'clock in the forenoon, and supper about five in the afternoon.

WHITECHAPEL CHURCH.

ON Wednesday the materials of the old parish church in Whitechapel were disposed of by public auction, previous to the edifice being taken down and a new church erected on the site. The entire number of lots was 70, of which 60 consisted of the materials belonging to the interior of the edifice, the remaining portion being connected with the main walls and fabric of the building. The prices realised by some portions of the interior fittings may be interesting. The materials of the galleries fetched 18l. 8s., while the organ case (the works having been removed) fetched 63l. It was described as having carved oak trusses and richly-gilt cherubim, and as having been built by Benatus Harris, who died in 1715, and whose latest organ was that in St. Mary's Church, Whitechapel. The paneled and carved oak pulpit, supported on four fluted columns with carved Corinthian capitals, realised 12l., while the aggregate sum which the pews fetched was 26l. Among the lots sold was the large stained glass window at the east end of the church. This window is about 10 feet in width and 15 feet in height, and contains in the centre a representation of "The Adoration of the Shepherds." It was stated that the original cost of the window was 600l.; it was sold for 17l. 10s. Several portions of the materials in the interior of the church were sold for little more than a nominal sum, among others the Portland stone columns, with Corinthian capitals, which divide the nave from the side aisles. These columns, four in number, are upwards of 2 feet in diameter and 30 feet in height, and the entire amount they realised was 3l. 14s. The lead in the building caused an active competition, and realised more than one-half of the entire materials of the structure. The total was a little more than 960l. The new church will be one of the largest in the metropolis. It may be interesting to state that the building about to be demolished was erected about 1620, on the site of a chapel originally dedicated to the Blessed Virgin in the time of the Conqueror. Old records state that on June 20, 1649, there died in his own house in Rosemary Lane Richard Brandon, the official executioner for the City of London, and the man who was generally supposed to have decapitated Charles I. In the burial register of the church there is the following entry under 1649:—"June 21. Richard Brandon, a man out of Rosemary Lane. This R. Brandon is supposed to have cut off the head of Charles I." No trace of the grave of this man can be found. The wife of John Howard, the philanthropist, was interred in the churchyard. The church has been deemed for some time unsafe, and the cost of restoring it would be greater than the value of the building.

WORKMEN'S HOUSES IN GLASGOW.

A PUBLIC meeting was held in the City Hall, Glasgow, on Tuesday, for the purpose of inaugurating a movement for providing better houses for the working classes. There was a large attendance, presided over by the Lord Provost. Letters of apology were read from various gentlemen. Major-General Knollys wrote:—

"I am desired by the Prince of Wales to acknowledge the receipt of your letter of the 29th, and to inform you that he has given deep attention to the subject to which it refers. You are correct in supposing that his Royal Highness takes great interest in everything that relates to the welfare and improvement of the working classes."

The Duke of Argyll wrote approving of the scheme, and stated his willingness to be a subscriber to the shares. The Marquis of Lorne, the Home Secretary, Sir James Watson, Sir James Lumsden, Colonel Mure, M.P., Mr. McDonald, M.P., Mr. A. Orr-Ewing, M.P., and others, also wrote expressing approval of the undertaking.

The CHAIRMAN stated that there were in Glasgow 110,288 dwelling-houses, and of these 35,583 were houses of one apartment, rented under 6s. These houses were inhabited by a population of 167,918, and adding those of two apartments, there were 83,364 houses of the two classes mentioned, with a population of 391,178, or nearly three-fourths of the whole inhabitants of the city. The question for their consideration was how to get the working-class population or a portion of them, now paying rents of 8s. and 10s., out into the open country, and what means of access were they to have to the various workshops.

The Rev. Dr. Begg condemned the way in which the working classes were huddled together, giving it as his opinion that far more were annually slain from preventable causes than were destroyed at the battle of Waterloo. The only way to effect a permanent improvement was to secure that a larger number of houses be erected, and the population spread over a larger surface. He spoke in favour of self-contained houses, and said he didn't see why working men might not soon become their own landlords and tenants, by means of co-operation.

Mr. GEORGE ANDERSON, M.P., said that what Dr. Begg proposed could only be done by co-operation. That, he was satisfied, was the only means by which the working men of this country were eventually to raise their social status far above any they have ever yet occupied. He saw no reason why our whole country should not eventually become one town—a rural town of gardens and small houses. The real difficulty undoubtedly was as to railway accommodation, but he hoped the result of the meeting would be to have a movement on a much greater scale, and that it would be productive of immense benefit.

Mr. ANDREW BOA, Mr. P. S. M'LIVER, Bristol, and others afterwards addressed the meeting.

On the motion of Mr. STEPHEN MASON, seconded by Bailie HAMILTON, a vote of thanks was awarded to Dr. Begg.

CHURCH WORK IN GLOUCESTER.

THE Lord Bishop of Gloucester and Bristol has addressed a letter to the clergy and laity of his diocese on the works which have been carried out during the past year. In the course of it he says:—As to the building or restoration of churches, I am glad to report a fair year's work. It must be remembered, however, that the amount of work, especially in restoration, is fast diminishing; simply because so much has been done, and (comparatively speaking) so few churches now remain unrestored, even in the most remote deaneries. In Gloucester Cathedral but little has been done. We have reached, as I mentioned last year, the end of the first stadium of our progress, and have not yet advanced into the second; nor can we, unless the county comes forward to do for the Mother Church what has been done in most of the daughter churches throughout the diocese. Yet the work of restoration has not been stayed, though it now falls almost entirely upon the Dean and Chapter. The work of the past year has been confined for the most part to the rebuilding of the pinnacles of the tower. This work is costly, and requires extreme care, so that its progress is necessarily slow. The splendid window for the north transept, presented by Sir Michael Hicks Beach, and to be executed by Messrs. Hardman, will probably be completed before Easter. The great work at the sister cathedral at Bristol is steadily advancing. During the summer months the funds enabled the committee to raise the number of masons to 40, and so, to some extent, to push on the roofing of the nave. The roof has been carried forward so as to meet the western towers. The side windows are now completed by the memorial window to Canon Moseley. By the great liberality of Mr. Kirkman Hodgson, who, in addition to his previous contribution (1,400s.), most generously gave 500s. to the fund for a memorial to Mr. Charles Ward—the western doorway has been built. Mr. Street has enriched this doorway with a sculptured tympanum, and receding orders of deep and handsome mouldings, which will remind the spectator of the western fronts of some of the finer French cathedrals. When the great rose window above it (given by the family of the late Mr. Daniel) is completed, the nave will be closed in. But much will remain, even in reference to this portion of the work. For the paving, glazing, and lighting, we shall want further aid, to the extent, at the very least, of 3,000s. The funds for the western towers, one of which is to be dedicated to the memory of Bishop Butler, will then have to be raised, and for this closing portion of the work at least 12,000s. will be required. Speaking of the diocese generally, his lordship mentions as additions the church in Tyndall's Park, Bristol, the village church of Poulton, the long-needed church at Purton, the chancel of the new church in Tivoli, Cheltenham, and the model school-chapel at Colethorpe, Standish. Of church restorations he enumerates those of the church of Holy Trinity, Clifton, the interesting church at Barnwood, Osleworth Church, Abbenhall Church, the chancel of Childwickham, and the church of St. John the Baptist, Gloucester. In this last case the work was confined to the interior, but has been done so promptly and judiciously as to deserve distinct notice.

Among the more important works now in progress the new churches of All Saints, Gloucester, and St. Nathaniel, Bristol, may be specially mentioned. Such is this past year's work; but if we also take into account the total amount expended in various ways on our churches, and also on schools, parsonages, and endowments, for this past and the two preceding years, we have the following results:—For the Archdeaconry of Gloucester the large sum of 103,635s., and for the Archdeaconry of Bristol the still larger sum of 149,254s. So that for the whole diocese, not including the two cathedral churches, the sum expended during the last three years on what may be termed external church work is more than a quarter of a million of money.

LEGAL.

Stone County Court.

Before Mr. W. BROWN, Judge.

CHARLES A. BARRATT v. GEORGE TURNER.—BUILDERS vs. ARCHITECT.

The plaintiff, a builder at Evesham, sued the defendant, a baker, of the same place, to recover 2s. 17s. for work done in the capacity of architect. At the request of the defendant the plaintiff drew plans for a new shop front and bay window to his premises at Evesham, and also made a specification and estimate, putting the cost of the proposed work at 18s. The defendant thought that too much, and the plaintiff prepared a fresh plan and estimate, in accordance with which the cost would have been 14s. The defendant, however, entered into a private arrangement with the plaintiff's foreman, who submitted an estimate on his own account amounting to 13s. 6d., and carried out the work from the plaintiff's plans, with very slight modification. As soon as the plaintiff ascertained what was going on between his foreman and the defendant he discharged the former from his service. When a builder acted as architect, and was not allowed to carry out the work, it was customary for him to be paid for his plans and estimates. In this case the charge made was after the rate of 2½ per cent. The plaintiff having been examined, the managing clerk to Mr. Griffiths, architect, of Stafford, stated that when a person was employed to draw out a plan and estimate—such as had been provided in this case—he would be entitled to charge 5 per cent. upon them jointly, in addition to, say a guinea, for sketching the plan in the first instance. The judge said that as the plaintiff was only a builder, the defendant should not be charged at the rate usual where the superior skill of a professional architect was engaged. The plaintiff's counsel said: He has only charged half of that.

The defendant said that when he first spoke to the plaintiff about the probable cost of re-fronting his house, Mr. Barratt said he was a "very bad one to guess at a thing," but would draw out a plan. He (defendant) did not order the plan, but one was made and brought to him, without specification or estimate, with a statement that the cost would be 17s. odd. He demurred to that amount. The matter stood over for some time, and Barratt's foreman told him the work could be done for less, and afterwards prepared a plan, with an estimate for the amount already stated. Mr. Houghton was called to confirm this statement. He said he took the dimensions for the plan himself, and that the plan of the elevation as carried out differed materially from the one prepared by the plaintiff. The judge having examined the plans, said he was of opinion that Mr. Barratt's plan had been substantially adopted and carried out. There must be a verdict for the plaintiff for 2s. 17s., to be paid forthwith. Costs were also allowed.

Ipswich County Court.—January 21.

(Before Mr. JOHN WORTLEGE, Judge.)

BUTTERWORTH v. WEST.—ARCHITECT'S COMMISSION.

In this case the plaintiff, an architect, sued to recover 30s. from defendant, a plumber, for architect's commission. A set-off of 7s. 2s. 8½d. was pleaded for gaiting and plumbers work done in plaintiff's house.

The plaintiff, the defendant, and two other parties, some time ago, built a house each in the same road. Mr. Butterworth was employed by Mr. West to be the architect for the house he (West) was having built, at the usual commission of five per cent. on the contract price, which was 408s. Plaintiff wrote his charges on a piece of paper and handed it to the defendant, at the request of the latter. He surveyed the building of four houses in the same road for Lord Gwydyr, and charged 80s., which his lordship made no objection to paying. Lord Gwydyr's houses were made from the same plans as Mr. West's house. Plaintiff alleged that the gas fittings were put into his house without his order, and he put them into defendant's own house.

It was submitted, on behalf of defendant, that the plans and specifications used for the building of the defendant's house, having been used in the building of the houses of Lord Gwydyr, had already been paid for by his lordship, and plaintiff was not entitled to further remuneration for them. In reality Lord Gwydyr had paid for them four times over.

Mr. BUTTERWORTH said that the plans remained the property of the architect. It was also submitted that the amount due to the plaintiff was still further reduced by reason of certain deviations from the plans which were made during the building of the defendant's property.

A witness said that the house of the defendant was built after the same plan as Lord Gwydyr's, during the construction of which alterations were made, by means of which the contract was reduced by some 80s.

His HONOUR said he did not think he could deduct anything from the 80s. claimed on account of the plans, and he could not disbelieve Mr. Butterworth whilst there was no evidence against him. Allowing a portion of the set-off, judgment would be given for 14s. 5s. 4d. This case gave one an idea of the sort of profit that architects made. For it appeared that where a number of houses were to be built, one plan and specification only was made out, and the architect charged for their use in every house built.

Mr. CATTERTON wished to inform the Court that this was not a general custom, but His HONOUR told Mr. Catterton to be quiet as he was not addressing him.

Durham County Court.

(Before Mr. E. T. MEYNELL, Judge.)

RULE v. BELL.—ARCHITECT'S COMMISSION.

The plaintiff, an architect in Bishop Auckland, sued the defendant, a pitman, for 3s. for work done. It appeared that in consequence of a communication he received plaintiff went to Langley Moor, and had had an interview with the defendant, who told him that he was about to build a house and shop, and wanted plans drawn for them. He took plaintiff to the site and gave him the requisite measurement of the ground. Plaintiff proposed to draw out the plans for 2s., and the specification for 1s. more. It was ultimately agreed that plaintiff should first draw out a pencil sketch of the plan, and that they should meet in Durham on the following Saturday for defendant to inspect the sketch, and see if he approved of it. Plaintiff drew out the sketch and duly kept the appointment at the hotel, but defendant never made his appearance. Plaintiff went to the hotel on the following Saturday, but still defendant never came. Hence the present action. He did not make out the specification.

Mr. W. FOX, architect, of Durham, spoke to 3s. being a long charge for making out the plan produced.

Defendant's plea was that he never gave any instructions to plaintiff to make out the plans, because he considered the price named was too high; and that he was unable to keep his appointment. His Honour gave judgment for plaintiff for 2s. 2s. and costs.

NEW BUILDINGS AND RESTORATIONS.

Board Schools, West Wycombe.—These new schools were opened on the 4th inst. They will accommodate 200 children, and comprise a school-room, 46 feet by 18 feet, an infants' school-room, 30 feet by 18 feet, and two class-rooms, 16 feet by 15 feet. There are separate playgrounds for girls and infants. The master's house adjoins the school. The contractors were Messrs. Smith & Fletcher; and the architect, Mr. Frederick William Burnham, Wycombe.

Bonded Warehouses, Kendal.—A limited liability company, in Kendal, are erecting extensive premises as bonded and free warehouses. The building is 200 feet long, 108 feet in width, and two storeys in height. The lower storey, which is composed of vaults or cellars, is fireproof throughout, and the upper storey is partially so. The lower storey is arched over with brickwork, and carried upon cast-iron columns and girders. The windows throughout are of iron, and are also protected by strong stanchions. The building contains sixteen commodious ware-rooms, four of the largest being each 100 feet in length by 33 feet in width, and is divided into two halves by a central avenue, lighted from the roof, and containing a double line of rails, two turn-tables, and platforms on each side, so that goods may be received into the warehouses or despatched with the greatest expedition. The warehouses will be connected with the London and North-Western Railway by means of a siding, so that goods sent from London or Liverpool may be conveyed directly to the building. One-half of the new buildings will be devoted to the bonding of goods, and the other half to free goods. In accordance with the Government regulations, the bonded and free departments are divided by a massive stone wall, and have no internal communication. Mr. Troughton is contractor for masonry, fire proof arching, &c.; and Mr. Carter for carpenters' work. Mr. Stephen Shaw is architect, and Mr. C. P. Shaw clerk of works.

The Duke of Edinburgh's Stables.—The Duke of Edinburgh has just had a commodious stableyard and carriage-houses erected in Belgravia, nearly opposite the Grosvenor Hotel. The coach-houses will accommodate about 30 carriages, and there are stalls and boxes for above that number of horses. These stables have all been fitted by Musgrave and Company (Limited), of Belfast, with their patent fittings similar to those supplied by the same firm for the stables of the Prince of Wales at Sandringham, and for those of Sir Richard Wallace just completed. The stables are erected round a covered courtyard, nearly two sides of which are occupied by the coach-houses, while the stables are to the right and left of the gateway. Over both stables and coach-houses are lofts and rooms to serve for fodder, &c., harness-rooms, and apartments for those employed in attending to the horses, &c. The divisions between the stalls are of wood, finished at the top with wrought-iron vertical rails surmounted with a neat, but strong, iron ramp. This ramp and the lower part of the frame carrying the rails are supported by a strong cast-iron pillar. The upper end of the stalls is lined with blue tiles, thus securing a good diffusion of light; while the horses are also shut off from view of each other while feeding. The light, according to the best principles, is admitted from behind. Ventilation is secured by a patent valvular window over the head of each horse, and the drainage is perfected by means of the patent traps and pipes, the traps being fixed in the centre of the stall floor. The manger is of iron and enamelled, so that it is easily kept clean. The whole forms a series of arrangements which must be of the greatest comfort, not only to the horses, but also to the grooms, for the saving of labour and worry in keeping such stalls clean as compared with what was required in old-fashioned stables is greater than can be readily estimated. The ironwork about the stables and fittings, &c., while perfectly adapted to its purposes, is also in general of an ornamental character, suitable designs having been introduced in each case, and where the contact of metal happens to be objectionable care has been taken to enclose it in wood or in some other fitting substance.

General

The Exhibition of Water-colour Drawings at the Dudley Gallery, Egyptian Hall, Piccadilly, will open on Monday.

An Art Gallery is to be erected in Warrington. The Corporation have subscribed 1,000*l.*, and a site has been granted by Lord Winmarleigh.

The Society of Engineers will hold their first ordinary meeting for the year 1875 on Monday next, when the president for the past year will present the premiums, and the president for 1875, Mr. John Henry Adams, will deliver an inaugural address.

The King of the Belgians intends to give an annual prize of 1,000*l.* throughout the rest of his reign, to be competed for in original works on specified subjects. Every fourth year the competition is to be open to the world. The first prize will be awarded in September 1878, for a volume on the national history; that of 1879 is to be for one on the architecture of Belgium.

The Annual Report on the accounts of the Cologne Cathedral fund shows that a sum of over 38,500*l.* has been laid out on the works during the year 1874. Of this about 15,000*l.* was raised by means of lotteries guaranteed by authority.

The Statistical Society offer their bronze medal for the best treatise on the state of the cottages of the agricultural population of England, especially with regard to the influence of structural improvements therein on the health and morals of the inmates during the last century and a quarter.

Lord Henry Lennox, M.P., First Commissioner of Works, has consented to be a vice-president of the Model Houses Association for Improving the Dwellings of the Poor.

Mr. T. M. Lindsey, Head Master of the Government School of Art, is now delivering a course of ten lectures on "The History, Development, and various Phases of Art" at the Ladies Institute, Belfast.

Mr. Wyke Bayliss, F.S.A., read a Paper on "The Use of the Supernatural in Art" at the last meeting of the Society for the Encouragement of the Fine Arts, showing the influence of the supernatural over all poetry, and its visible form in early Greek art. The life of man, he maintained, was and should be the central theme of art, and the supernatural only incidental thereto.

Mr. H. G. Bohn, the well-known bookseller and publisher, is about to sell a portion of his valuable collection of old English porcelain, &c., and a large variety of examples of the different English manufactures collected by him during the last half century will be offered for sale by Messrs. Christie, Manson & Woods early in March next.

The Late Lady Fane has bequeathed to the National Gallery her portrait, as a child, by Sir Thomas Lawrence; and to the National Portrait Gallery the portrait of her father, the Earl of Westmoreland, by the same artist.

Mr. H. H. Armstead, the sculptor, has been elected an Associate of the Royal Academy.

Professor Melbye, the Danish marine painter, has died in Paris.

Mr. A. W. Franks has presented to the Society of Antiquaries a collection of rubbings of brasses from Bedfordshire, which is the instalment of a gift of 3,000 rubbings, representing the different counties of England, to be given to the Society.

Mr. Robert Walker has been elected district surveyor for St. Martin-in-the-Fields and St. Anne, Soho. Mr. G. Landsdown was second on the poll, Mr. Banister Fletcher third, Mr. C. A. Gould fourth, Mr. F. R. Meeson fifth, and Mr. H. H. Collins, sixth. There were 27 candidates.

The Metropolitan Board of Works have resolved that the office hours of district surveyors are to be from 10 till 4 daily.

Mr. Woolner's Statue of Lord Palmerston, which is to be erected in Parliament Square, was cast on Saturday last at the Manor Iron-works, Chelsea.

A Bronze Statue of Hans Christian Andersen is proposed to be erected in Copenhagen. The subscription is fixed at a trifling sum, in order that all classes and even children may take part in it.

A Company has been formed for the purpose of erecting a large hotel in the American style in London. The site proposed is at Albert Gate, Hyde Park, and it will have a frontage of 240 feet and a depth of 150 feet.

The Civil Service Supply Association intend to lease a plot of land at the south-west corner of Bedford Street and Chandos Street, Covent Garden, containing 5,813 feet, whereon to erect stores on an extensive scale.

St. Ives, Ringwood, the seat of Lieut.-Col. Wright, which was almost totally destroyed by fire at the end of last year, is about to be rebuilt, with extensive additions, from the designs and under the superintendence of Mr. Robert W. Edis, F.S.A.

The Committee of the Edinburgh Improvement Trust have recommended that the salary to be paid to the one architect who is to carry out the works of the Trust should be 400*l.* a year.

Plans of New Buildings to be erected in Greenock, representing work to the extent of 42,000*l.*, were passed by the Dean of Guild Court last week. Of this the conversion of some old buildings into an arcade represented 23,000*l.*

The Hotel of the Guild of the Crossbowmen of St. George, at Bruges, is about to be taken down to make room for a normal school, which is to be erected on the site.

The Metropolitan Board of Works have accepted the proposal of Mr. Mapleson for a site on the Thames Embankment, near the intended thoroughfare to Charing Cross, on which to erect a new Opera House, winter garden, café, &c. The term of the lease will be eighty years, and there will be a competition for the designing of the buildings.

The Brooklyn Bridge over the East River, New York, is approaching completion. The tower on the Brooklyn side is substantially finished. On the New York side the tower has been carried a few feet above the springing of the arches, and can be completed during the coming working season. The Brooklyn anchorage is within 20 feet of completion, and will require about three months' work to finish it. The castings required to support the cables of both towers are made.

The "New York Times" is informed by despatch from Ottawa that Mr. Walkem, Minister of British Columbia, succeeded while in England in obtaining from the Imperial Government a grant of \$250,000 to aid in the construction of a graving dock at Esquimalt.

The Communal Administration of Louvain offers a competition among Belgian artists for a model of a statue to be erected to the late Sylvan Van de Weyer.

Forthcoming Contracts.

Tenders are immediately required for houses and shops in the Camberwell Road, for Mr. Alexander Jones. Mr. J. H. Swann, 52 Cannon Street, architect.

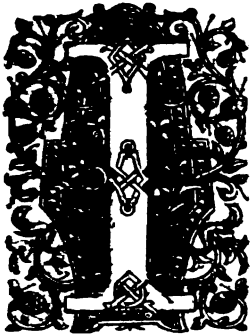
Tenders are shortly required for St. John's Church, Ealing. Mr. E. H. Horne, architect.

The Hanover Square Rooms are about to be converted into a club house. The works are to be executed for Mr. E. H. Russell. Mr. Tylor, of Norfolk street, Strand, is the architect.

Tenders are required within the next few days for six warehouses and three houses and shops in the City Road, for Mr. Elder. Mr. Reed, of Mansion House Buildings, is the architect.

The Architect.

A PRACTICAL PROPOSAL FOR AN ARCHITECTURAL DIPLOMA.



IN spite of all that has been said for many years past in explanation of the principle that it is impossible for the profession of architects to be placed by Government authority on the same footing as those of medicine and law, through the establishment of a system of public examination which shall divide the qualified practitioner from the unqualified, and probably confer certain legal rights upon the one which are denied to the other, it cannot be disputed that the cry is still kept up for a recognition of the distinction, as matter of fact before the public. It may not be out of place, therefore, if we

submit a proposal whereby the real and proper purpose of what is wanted may be at least sufficiently brought into definite form to admit of a discussion of its feasibility.

It has been frequently suggested with much earnestness that the Royal Institute of Architects might make the admission of members a matter of examination. The idea involved is no more than this—that if the fact of membership were understood to signify that the member had previously proved himself, by no matter what process provided it were before examiners, to be a competent architect, these results would follow:—the public would know whom to employ and whom not; the certificated practitioner would obtain the advantage which he deserves; and the repute of the profession at large, within its recognised limits, would stand on more favourable ground.

The reason why this scheme, in half a dozen different forms, has been made to turn upon the action of the Institute, is simply because any separate corporation, taking the form of a public College of Architects, would, if at all successful, eventually become almost identical in its membership with the existing institution, which has in fact already acquired all the characteristics of a complete professional guild. Not only so, but the establishment of any such separate body would be not only tedious, but in a great degree uncertain, and all the more so by reason of the very rivalry which would necessarily arise between the new institution and the old.

Turning then to the Institute in this view of the case, the chief difficulty which has to be encountered has always been immediately manifest. Unless, in a word, the present members as a whole could be induced actually to submit themselves to the test, how could this recognition be made to indicate a reality of qualification? In fact, it has invariably been assumed that the great majority of them would have to be certificated as a matter of form; and it may be said that herein lies the only serious obstacle, so that the discovery of some plan whereby to enable existing members of the Institute to take the title of membership in its changed signification on such a footing as to be not a sham is all that is required to establish the long desired "diploma."

Now it may be taken for granted, and the fact indeed could not well be otherwise, that the Fellows and Associates of the Institute are as a fact, each class in its own degree, competent men. There may be, and it is well known there are, certain varieties of qualification; but in one form or another every one is qualified. Let this circumstance, then, be fully borne in mind, and the difficulty above hinted at must be seen to be in a great measure overcome. These gentlemen have only to understand that the standard already set up in their own case is identical with the new standard (which it manifestly must be), and the sole remaining matter for inquiry is what shall be the form of investigation which is to be adopted for the purpose of converting their acknowledged qualification through the old process into the same qualification through a new one. The notion that academical professors, public officials, past vice-presidents, and members of Council of the Institute, are to be subjected to questioning like school boys on the alphabet of their knowledge is not at all essential to the end in view; and, what is equally plain, the supposition that any existing member would be "plucked" must be looked at as in the nature of things an impossibility.

It is the mode of examination, therefore, that alone requires to be settled; and it need scarcely be remarked that this is no more than a point of practice for the expert examiner. For the task of examination, be it remembered, is indeed one in which none but expert and experienced persons can ever be trusted. The Institute of Architects fortunately possesses already two well established examination tribunals of its own, namely, the committee for the "Voluntary Architectural Examination," and the District Surveyors' Examination Board under the Building Act. These can surely supply without difficulty all that is requisite, whether for conducting the process itself or for determining what it shall be; and as it may safely be presumed that it is strictly a "pure examination" that is to be in question, and that no "distinctions" are to be allowed for the present

to complicate the transaction, the duty of those who would thus carry out the scheme would be still further simplified. Indeed their work may be described as being no more than this:—first to discover with precision the standard, as a knowledge qualification, which custom has actually set up as regards present admission to the Institute, and secondly to devise such a form of proof as shall constitute evidence of this qualification without involving any risk of either offending the reasonable susceptibilities or trespassing upon the occupied time of existing members.

The whole success of such a scheme would thus turn upon one thing, namely, fact. If the examiners were encouraged, or permitted, to set up the vexatious principle of what is called a high standard, the entire project would be inoperative. But if they could be got to recognise not the mere policy of passing every existing member, but the obvious fact that every existing member is entitled to pass—by reason of his having already attained the result by other means equally trustworthy—then the task which is entrusted to them, albeit that it would be no matter of empty form, would be in no way invidious. The abstract principle upon which to rely may be repeated in other words, thus:—that every existing member has already passed, and that the sole task for the examiners is to devise a new examination which shall be only another form of the old.

As regards the distinction between Fellows and Associates, it seems in no way difficult to contrive, on the same basis of the existing conditions of membership, a corresponding difference of knowledge qualification. This also would, in short, be matter of detail for the examiners. But, so soon as new members came to be dealt with, it is possible that it might be found desirable to introduce innovations in the examination course, although it would be neither good policy nor good faith to raise the standard fastidiously, or indeed to raise it at all without due preparation. The essence of the scheme is still the same—that the present qualification is sufficient.

The retention of the ballot would probably be both desirable and necessary, and such compensating regulations as might be requisite on this ground seem to present no great difficulty.

We take leave to submit this proposal for the consideration of our readers, and to offer space for its discussion by correspondence; and we may afterwards request permission to treat further of the whole question if the appeal should seem to be favourably entertained.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GOSWELL, F.S.A.

HENRY VI.—Part III.

THE story of the last part of this long reign commences with the Parliament of July 9, 1455, and ends with the death of King HENRY, June 1471. The chronicle of events may be briefly stated as follows:—

- 1455. July 9. Meeting of Parliament.
- 1456. The Duke of YORK and the chiefs of his party retire to their estates.
- 1459. Nov. 20. The Parliament meets at Coventry. YORK and his co-partners are attainted.
- 1460. July 10. Battle of Northampton. The QUEEN's forces are defeated. She and her son flee to Scotland, and HENRY is taken prisoner.
- 1460. Oct. 7. Parliament meets. YORK formally claims the throne, Oct. 16. King HENRY agrees that if he is allowed the Crown for his life, YORK shall succeed him.
- 1460. Dec. 31. YORK besieged by the QUEEN in Sandal Castle, near Wakefield, is defeated and killed in the action. His son RUTLAND is taken, and murdered by butcher CLIFFORD.
- 1461. Feb. 2. Battle of Mortimer's Cross, near Wigmore, the young Duke of YORK (set at 20) victorious.
- 1461. Feb. 17. Second battle of St. Albans, the QUEEN defeats the Earl of WARWICK, and rescues the KING. London closes its gates against her, and she retires to the North.
- 1461. Feb. 28. Duke of YORK enters London.
- 1461. Mar. 3. Duke of YORK declared King under the title of EDWARD IV.
- 1461. " 29. Battle of Towton. EDWARD IV.'s forces victorious, partly due to a fall of snow.
- 1464. Ap. 25. Battle of Hedgeley-Moor, and May 15, at Hexham. The Yorkists victorious in both. HENRY VI. finds an asylum in Lancashire, but his QUEEN and son flee to Flanders.
- 1464. Sep. 29. EDWARD IV. announces his marriage with the Lady ELIZABETH GREY (WOODVILLE, of Northamptonshire).
- 1465. King EDWARD sends ambassadors to France, demanding the expulsion of the Lancastrians.
- 1465. May 26. ELIZABETH crowned at Westminster.
- 1466. July. King HENRY taken in Lancashire, brought to London, and imprisoned in the Tower.

1470. WARWICK joins MARGARET's party, lands at Dartmouth. EDWARD flees to Lynn, and so to Flanders Oct. 8.
1470. Oct. 5. WARWICK enters London, and HENRY VI. resumes the throne.
1471. Mar. 14. King EDWARD lands at the mouth of the Humber, his party join him at York.
1471. Mar. 30. CLARENCE joins him at Coventry. They march to London, and send King HENRY to the Tower.
1471. Ap. 14. WARWICK follows the Yorkists from Coventry, is killed in the battle of Barnet. On the same day MARGARET lands at Weymouth, joined by the SOMERSETS. She offers battle, and is defeated at Tewkesbury, May 4, and taken prisoner.
1471. June. King HENRY is found dead.

Now it is at once manifest from the text of the first Scene of the first Act that SHAKESPEARE's history begins not where he left off at the end of Part II., but five years later. So that the play really opens on October 16, 1460, when YORK in Parliament formally claims the throne. The siege of Sandal Castle follows, and then the poet, by the mouth of WARWICK, describes the second battle of St. Albans, and passes on to the battle of Towton, which finishes the second Act. In the third Act history is reversed, and King HENRY is taken prisoner two years too soon, or in 1464 instead of 1466. After this the drama keeps pace with the chronicles, and the last Act ends with the death of HENRY and the banishment of his QUEEN to France.

The architectural Scenes are laid in London and Paris, and before Sandal, York, and Coventry. In London we have:—

1. The Parliament House. (Act i. Sc. 1.)
2. A room in the palace. (Act iii. Sc. 2; Act iv. Sc. 1, 4, 8; Act v. Sc. 7.)
3. A room in the Tower. (Act iv. Sc. 6.)
4. Another room in the Tower. (Act v. Sc. 6.)

In Paris we have a room in the palace of the Louvre. (Act iii. Sc. 3.)

At Sandal we have a room in the Castle, and an external view. (Act i.)

At York in both Scenes we find ourselves before the gates. (Act ii. Sc. 2; Act iv. Sc. 7.)

We are also before the gates of Coventry in Act v. Sc. 1. Besides which we have scenes near Tewkesbury (Act v.), Warwick (Act iv. Sc. 3), and Middleham Castle, Yorkshire (Act iv. Sc. 5). But these three places are not bound to be seen. Indeed a back cloth representing the open country would be far better than any attempt to represent castles and towns of historical interest unfaithfully. Still we must always bear in mind that the progress of the dramatic action is assisted whenever familiar localities and such well known landmarks in history as Tewkesbury Abbey and Warwick Castle can be brought before us and carefully rendered by the scene painter. In this case there is no great difficulty: the youngest archaeologist will find it no hard task to picture Tewkesbury and Warwick as they appeared in the second half of the fifteenth century. Middleham Castle is still to be seen, and although in ruins, there are remains sufficient to enable us to judge with a tolerable amount of accuracy of its complete effect. It is certainly strangely planned, for it consists of a fourteenth century structure enclosing a small quadrangle, out of which rises a Norman keep very nearly as large as the quadrangle. Of Coventry the Mediæval relics are so extensive that no intelligent scene painter need go wrong if he will remember, first, that a minster with three spires stood close to Trinity Church till the reign of HENRY VIII., and that this minster was probably of the thirteenth century, as shown by the fragments discovered in 1859: and, second, that licenses to crenellate the town were granted by EDWARD III. to the "maior, ballivi et probi homines" in the thirty-seventh and thirty-eighth years of his reign. These licenses, I have no doubt whatever, were the first steps towards the rebuilding of the Mediæval town in that sumptuous manner, evidenced by almost every fragment yet existing that dates from the fifteenth, or the latter part of the fourteenth, centuries. The architectural details of the scene before the gates of Coventry would therefore be in the style of the Early Perpendicular, as exhibited in the choir of Gloucester Cathedral.

Of the walls and gates of York it is unnecessary to say anything; they remain to be measured and drawn, and numerous illustrations of them are to be found in all sorts of publications, from the penny magazine to the most expensive architectural works.

Of Sandal Castle I know nothing.

The room in the Palace of the Louvre would most probably be the grand hall of St. Louis, already mentioned in my notes on Henry V.*

We have now only to consider the Scenes in London, and these, although above tabulated as four, may be reduced to three, if we can reconcile, as I think we may, the two Scenes in the tower—i.e., the penultimate scenes of Acts iv. and v. We shall have then remaining:—1. The Parliament House. 2. A Room in the Palace. 3. A Room in the Tower. The Parliament House, I need hardly

say, in this case means the Chamber, or House of Peers, the interior of which would present an almost uninterrupted series of tapestry hangings, the windows being set high in the wall. The principal feature in the room would be the throne, covered, there would be a few steps to the throne, richly carpeted, and sufficient accommodation on the seat for two. The arms which may appear on the dosseal of the throne would be those of England impaled with those of Queen MARGARET. Curtains may hang at the side, and these various accessories would, I should imagine, lend considerable aid to the business of the actors in this exciting scene. We must not forget either that when the Peers of England met in Parliament they were usually provided with seats, the character of which may be seen in manuscripts in PARKER's "Domestic Architecture of the Middle Ages," in Mr. BURGESS' work, and in M. VIOLETT-LE-DUC's "Dictionnaire Raisonné du Mobilier Français," Vol. I. But the great scene of the play is the room in the Royal Palace of Westminster, for it figures no less than five times in the progress of the drama. This room would be unquestionably a state apartment, and like most other rooms in palatial residences at this period, it would be rich in tapestry; in it would be a chair of state or throne on a smaller scale than that in the House of Lords, and there would be certain domestic furniture besides seats, such as cabinets with gold and silver plate, carved chests, tables, a lectern or two, and other movables of the time. The room in the Tower may be like that described in my notes on the first part of Henry VI.

Fashion in costume was now beginning that activity of life which is so acutely felt at the present. Every new thing, no matter how inappropriate, provided it were only brought out in France, was sure to be received in England. Costly material, such as silk, satin, velvet, cloth of gold, and fur of sables, were worn even by boys. Heavy chains of gold, and girdles of the same material and of silver gilt, were so common as to make it necessary to forbid the use of them except to such persons as were possessed of 40*l.* a-year. In 1464, EDWARD IV. tried to govern the fashion by Act of Parliament by which only lords had privilege of wearing the indecently short jackets or doublets hitherto worn by knights and squires. The pikes or points of the shoes and boots were limited to a length of 2 inches, excepting only those of the nobility, who had the privilege of wearing them from 6 to as much as 24 inches long. Stuffing of wool, or as we should call it padding, was used to such an extravagant degree by the fine young gentleman of the period that their shoulders looked absolutely deformed. In the armour there is the same padded bulging look which we recognise in the civil costume. The breastplates, and the elbow and shoulder-plates are extravagantly capacious, and the solerets were just as ridiculously long and pointed as the leather shoe. The silk surcoat of earlier days was seldom or ever used, but instead of it they wore either a tabard of arms as worn by heralds, or a long sleeveless cloak, open at the sides. The hand-gun became common, and halberds were introduced. The costume of the ladies was as costly and extravagant as that of the gentlemen. The gowns had enormously wide borders of fur or velvet. Conical caps, as much as three-quarters of a yard high, were quite the correct thing; loose fine kerchiefs hung from the top of them, reaching nearly to the ground. One of these head-dresses, when bordered by wings, was known at the time by the name of the "butterfly," and head-dresses of this kind, made of starched and wired lawn, may yet be seen in St. Lô with the butterflies' wings and all complete, as they were worn four centuries ago.

DUDLEY GALLERY.—SPRING EXHIBITION.

THE Dudley Gallery, in this eleventh exhibition of water-colours, presents an unusually crowded and praiseworthy collection. Report counts the rejected drawings up to twelve hundred, which, if true, indicates that the market as regards this sort of art is overstocked. The number of drawings hung is over six hundred, and consequently a large number are "skied" beyond observation by the naked eye. The hangers probably do the best they can to exercise impartiality even in rejections, and on the whole the exhibition justifies their discrimination: at the same time it strikes one that they incline rather too much to admitting and rejecting wholesale. If an artist is present at all he has generally two or three pictures, one of which, at least, might have given place to some work by a brother painter who is excluded altogether. In a gallery like this, whose chief virtue is unexclusiveness, it would certainly be the most generous plan to aim at letting every artist of fair merit be represented by one picture, rather than to admit whole groups by hands of little above average power.

Landscape is as usual both more numerously and better represented than figure subject, and the collection abounds in those truthful studies of nature which we have more than once pointed out to be characteristic of this exhibition. In the best sense the landscapes in the Dudley Gallery are the production of amateurs; they look like the work of artists who have painted only when mood and pleasure dictated, without the pressure of professional anxieties and necessities: there is that internal evidence of enjoyment in the labour which gives high artistic charm to a picture. The number of drawings which deserve mention in a review of the room is entirely beyond grasp, and would, if taken categorically, turn our columns

* See *Architect*, December 26, 1874.

into a catalogue. We shall purposely content ourselves with notice of a few names that belong either to new or to newly-prominent exhibitors; works by well-known artists may speak for themselves. Mr. JOSEPH KNIGHT has in oil and water-colour exhibitions approved himself a truly poetic artist, delighting, like the late GEORGE MASON, in the beauty of quiet places under the mysterious half lights of the after-glow. In *A Morass* (93) the sentiment of the lonely stretches of moor over which the light fades slowly into night is finely caught; in this, as in the little picture (266), the form of the horse is rather absurdly elongated to give effect at a distance; there is no reason why a well-drawn animal should not tell quite as well. A new name to us, Mr. WILLIAM WARD, stands against a little picture in the like artistic mood and manner, *Move Eastward, Happy Earth* (362), where we find very beautiful study of warm light reflected into shadow; but, here also, the painter breaks down in his one living object: the girl who stoops to fill her pitcher from the still, glassy pool, is poorly put in. One of the most purely artistic bits in the gallery is a tiny study on the screen by Mr. ERNEST WATERLOW (604), just the side of a stubble field, half aglow in the sunset, half in cool shade, where some white geese are stretching their long necks, and on the ridge of the hill the corn ricks in full blaze of gold against a sweet evening sky of turquoise green. The several Italian subjects of Mr. O. R. ASTON also draw the eye to dwell on their tender and truthful rendering of familiar spots: *Rome, from the Pincian* (576) is especially delightful. Another new name, possibly, but evidently a practised hand, belongs to the little sketches of church interiors and of figures, by Mr. T. EVANS (514 and 515). There is nothing better in the room for firm, crisp pencilling and decided purpose. Before leaving this less familiar group, we must mention Mr. COTMAN, Mr. A. FISHER, Mr. DARVALL, Mr. PILSBURY, and Mr. LONG; the latter is successful in that study of a glimmering sea under faint silvery lights and mists, which Mr. POWELL, in the old Water Colour Society, has somewhat initiated.

Mr. ARTHUR SEVERN is generally good enough to supply the Dudley Gallery with something sensational, not in the way of poetry, but of uncompromising prose. This year he exhibits an excessively clever drawing of a *Hailstorm at Venice*, 1872 (168). The manner of the artist is generally obnoxious to us, but there is no denying admiration to this drawing; the way in which the swirl and sweep of the fierce blast-driven storm is given, and the skilful management by which the buildings through the white fury of hail are bleached of colour and yet do not lose substance, are worthy of all praise. Very few artists could paint such a scene: Mr. SEVERN's rigid exactness stands him in good stead here, and imitation of what he sees makes him dramatic in spite of himself. Another precisionist in landscape is Professor POYNTER, who certainly has the power of transcribing nature with realism that suggests the work of a Chinese who has been taught perspective and atmosphere. The little classical subject by Mr. POYNTER, where VENUS in a garden, accompanied by divers nude Graces, shows her hurt foot to ÆSCULAPUS seated under a pergola, a pleasant little picture, well composed and not inharmonious in dusky colour, brings us to the figure subjects, and here a very motley group commands our attention.

First for the artists whom we might call, like a certain sect, "the peculiar people." Mr. CLIFFORD has, in his time—and he is by no manner of means a veteran—been very peculiar. But "out of the smoke comes fire," and in the wholesome, and probably lucrative, line of portraiture Mr. CLIFFORD does very good work. Of the three heads exhibited, the two most inviting to an artist's pencil have naturally called forth Mr. CLIFFORD's happiest efforts. The *Earl of Tankerville* (175), though a little immobile and clay like, is a handsome profile, well modelled, carefully painted; *Lady Ida Bennet* is, in treatment of the beautiful face inclined a little away, the finely-moulded, rather haughty features, the rich complexion, truly an artistic study. The somewhat severe way of pronouncing the head against a quiet toned background, with a quaint flower or two, or a coat of arms introduced in one corner, suits the rather simple and flat style of portraiture Mr. CLIFFORD has worked out with precedent of HOLBEIN and early German masters. Original, is the delightful mode of Mr. J. C. MOORE in the portraiture of children: a light and brilliant key of colour, picturesque accessories tastefully introduced, and a straightforward reading of childish beauty, make up the charm, giving always an execution careful and delicate. Mr. MOORE's children seldom do anything except stand for their pictures, but this they do quite naturally, and with a certain infantine importance and dignity. This, to compare small things with great, is the mode of treating child portraiture of VELASQUEZ, not of REYNOLDS.

Our old favourite, Mr. WALTER CRANE, has not cleared up his palette, neither has he forgotten how to give a certain fascination to ugly forms and quaint landscape backgrounds. *The Earth and Spring* (456) endows with statuesque grandeur a sleeping woman, who lies prone along the turf, and is piped to by a rather pulpy and disagreeable-looking nude boy; daffodils break up with golden stars the stretches of green meadow, and an idyllic beauty is about the whole picture, albeit full of affectation and not too well drawn. Mr. CRANE certainly still ranks among the "peculiar" sect; but he comes pleasantly as a change, and has his own merits. Miss HELEN THORNTON is, perhaps, the only artist in the gallery who gives us a noble study of expression in a head: her *St. Sebastian* (559), from this point of view, is a remarkable production. The type of

head is fine to begin with, but not short of masterly is the complex expression of mingled patience and anguish: torture in the dark supplanting eyes and twitching brows, entire resignation and steadfast purpose in the closed mouth, with its curved line, stern and yet sweet. We have seldom seen so fine and subtle a study of expression from a modern hand, and never before from a woman's. A well conceived and cleanly executed picture is *Jael* (394), by Mr. ANELAY; there is considerable power in the drawing, which will induce us to look for more from the same artist.

Mr. HEYWOOD HARDY takes the place of honour in the gallery, with an eccentric study of vultures in their horrible capacity of *Camp Followers* (190). A ghastly company are these grim creatures, perched on the edge of a cliff overlooking a battle-field, gorged by their hideous banquet, and now standing immovable, each after the other; horrible grotesques, through whom Nature seems to laugh at her own strange symbolism of greed and cruelty. Mr. HARDY is really terrible in his realism. The same creatures have attracted the brush of another artist, Mr. TRISTRAM ELLIS (405), who, by the way, in his large landscape, *Loch Awe* (348), shows great advance in power on past years. Foreigners are not quite so plentiful as sometimes in the Exhibition, but a drawing, called *The Rescue* (502), by V. CABIANCA, attracts by a continental manner that seems to date from Paris, though the artist's address is in Rome. There is much good harmony in this composition, the grey walls and dark cypresses against the pale evening, or early morning (?) sky, and the quaint mediæval figures sharply drawn, chime well together in a sombre chord. There is only just a touch of the gay tinting which besets the Italian palette. We will conclude by a word on Mr. JOPLIN's *Sophia Western* (414), which of course is too loud to escape notice. All that cleverness without refinement, and skilful execution without character, and well-accorded colour without nobility can do for the image of a handsome girl in a green velvet riding habit, trimmed with grey fur, Mr. JOPLIN has here accomplished.

The Dudley Gallery has always proved a nursery of good flower painting, especially among ladies. We must group for want of space the names of Madame SPARTALI STILLMANN, who this year appears as a flower-painter, with *Cyanthemums* (297) and *Lilies* (312), that have the gorgeous colour and perhaps too much of the texture of rich tapestry; Miss COLEMAN, who is supremely artistic in arrangement and colour; Miss KATE CARE, original in a certain breadth and selection—her *Christmas Roses* (147) in the snow would make a beautiful decorative panel; Miss SAMWORTH and Miss MEYER, both good in technique and colour, and Miss ISABELLA GREEN. Mrs. WHYMPER has painted a capital group of *Scotch Thistles* (306). She should follow it up by a companion study of the glorious blue thistles that grow in the Apennines, and shine with iridescent metallic lustre like azure stars, on the bleak mountain sides in summer.

THE PROFESSION AND ITS EMPLOYERS.

THE earthly home of Mr. BROADHEAD has lately contributed no inconsiderable support to the position which has been assumed by the public with regard to the architectural profession; and possibly the reform of building may come from that quarter, strange as it may appear; for, though Yorkshire is the largest county in England, its history, so far as progress and reform are concerned (if we except its part in the cause of education) is not so marked as that of its smaller neighbours. To a well-remembered description of certain Yorkshire schools was originally due the feeling which has lately borne fruit throughout the country, that something ought to be done to spread the means and improve the mode of acquiring general knowledge. The Sheffield Board of Guardians have just done what may be deemed a similar service to the building fraternity; and Halifax, speaking by the same useful and intelligent mouth-piece, threatens to assist in the good work. We may consequently expect a new class of advertisement, and, probably, we shall be compelled to divide our column of "Tenders" into two parts, one for architects and the other for contractors. The rapid development of the competition system may therefore be anticipated, and something like the following notice inserted in the public journals may help to open the eyes of respectable practitioners to a sense of their future position:—"To Architects and others.—Tenders are required for the privilege of making the designs and superintending the erection of a Town Hall at Belgravia-on-Sea. The tenders to be accompanied by working drawings and specifications, and to include the cost of preparing both, as well as of superintending the works. No premiums will be paid to any of the candidates, nor will the Town Council hold themselves responsible in any way to any of them. The lowest, or any tender, not necessarily accepted," &c. Though such an advertisement might surprise some of our readers, it would certainly not surprise them to learn that it had received seventy-five *bond fide* and substantial replies, principally from London. Every week adds its mite to the heap of humiliation which is the outcome of competition, as it is practised by the employer and pursued by the employed. Competition, to be practically useful to the true architect and beneficial to architecture, is possible only in a community possessed of the highest morality and the highest general education. The people of this country, viewed in the aggregate, possess neither one nor the other and any proceeding which helps to show a bad system, and a worse

application of it at the worst may be received with hope and satisfaction by genuine reformers accustomed to be thankful for small favours. To the workhouses of Sheffield and Halifax the better portion of the architectural body may turn with grateful eyes. In the former town fourteen architects or "firms" have been invited to state the rate of percentage at which they would prepare the plans and superintend the erection of a new workhouse. Messrs. INNOCENT & BROWN, some of whose excellent school buildings have been illustrated in our pages, offered their professional services for the recognised commission of five per cent. upon the whole outlay; while Mr. FAY, of Sheffield, offered to do all the work appertaining to an architect required in the erection of the workhouse in question for one and a half per cent. No one seems to have had wit enough to offer his services for nothing, which would have been a by no means unprofitable or dishonest proceeding on the part of any architect who was not a member of the Institute. Once upon a time, and within the memory of living practitioners, it mattered little to an architect by whom he was paid, provided he did obtain remuneration for his trouble; and perhaps this last straw added to the heterogeneous bundle of professional abuses may be considered sufficient excuse for us to inquire into the present relations of the architect with his master.

Something of the dread which has long been inspired by the necessity of "going to law" is now felt by all who are going to build. No man once fairly launched in an abyss of brick foundations can tell what may be the end thereof. Very few are capable of understanding the estimates and analogous accounts presented to them. Something of the spirit of gambling seizes upon a man who is bold enough to employ "RIPLEY with his rule:" he trusts half to him and half to chance, and he is often disappointed. In building operations there are so many parties concerned; the manner of paying them for their services is so complicated, and the danger of collusion between them so apparent, that the weariness of the public increases rather than diminishes as the necessity for new buildings spreads. Nor is England singular in this respect. In France there is a similar and even more complicated system, which in one particular is almost dishonest. The Parisians, however, get a great deal of artistic mediocrity which the world, for want of something better, admires; the Londoners periodically obtain a few excellent works which are irremediably swamped by a host of a different class; and there seems no prospect of change for the better. That the system of architectural practice in general, and the mode of remuneration in particular, are at fault, seems to be admitted even by most optimists; and that inquiry into the system is studiously shirked, and even deprecated by those in authority shows its precarious characteristics more plainly than even the dissatisfaction with which it is universally regarded by the competent amateurs who have studied it.

The forces engaged upon the side of the proprietor who pays are the architect, who makes the design, and the surveyor, who calculates the quantity of materials which will be required to erect it. On the other side is the contractor, who provides the materials and the manual labour. He enters into a contract with the proprietor under the advice of the architect, according to bills of quantities which are prepared by the surveyor. The architect is paid by the proprietor a percentage on the amount of the contractor's expenditure; the surveyor is paid by the contractor a similar but smaller percentage upon the same. Thus, when an architect acts as his own surveyor he becomes the creditor of both the party which employs him and the party he employs. Between them he supervises a legal agreement and contract.

It is worse in Paris, where no general contract is made. The different artificers are summoned by the architect, who draws up a separate agreement with each—with master-mason, master-carpenter, &c. The work is generally paid for by measurement, according to a prescribed tariff, and after it is executed. The French proprietor is less favoured than the English one, for the former knows nothing of the probable cost of his building except by an approximate estimate; the latter knows a little by the contractor's tender which he accepts, but is unable to appreciate even though he look it through. In France, the several contractors' bills are sent in to the architect soon after the completion of the works; and then a *force* commences. It has been arranged by agreement beforehand that the work shall be done at a rate of—say five per cent. below a municipal tariff; and therefore to check the bills all that is required is to ascertain if the quantity of materials provided be exact, and the calculations arithmetically correct. This might appear to outsiders as *bond fide* employment for either the architect or his clerk of works. But not at all! There are other professional men to be satisfied. There is the surveyor employed by the architect, and there are the surveyors employed by the different artificers. The former, paid a percentage by the architect, examines and corrects the bills presented by the several tradesmen, who pay another and larger percentage to as many surveyors for the preparation and defence of the same. These latter prepare the bills *en demande*; that is, they add to the amount they are entitled by agreement to receive never less than one-fifth of the sum total—they increase the price of each item one-fifth in order that the surveyor employed by the architect may deduct one-fifth from it in red ink. Often a French contractor's bill is entirely refigured before it is presented to the proprietor who has to pay it; and it is said that red ink corrections afford a soothing palliative to those clients who are, not unnaturally, tormented with

doubts as to the justice of the claims made upon them. In England competition is popularly supposed to be a safeguard to the employers; and the reception of a list of tenders, of which the highest is torn and the lowest four thousand pounds, is thought to be a proof positive of honourable dealing and of the advantages resulting from the counteraction of opposing forces. In both countries there is another functionary, who is the clerk of works or inspector. Although his salary is paid by the proprietor, he is under the thumb of the architect, as agent of the former, and he acts as the latter's clerk. Instead of being a check upon both architect and contractor, he is indirectly the representative of both, since he executes the orders of one and rules the foremen of the other. In fine, although by an amiable fiction most of the members of the building fraternity pay each other, the proprietor pays for all—which is both natural and inevitable. He pays the architect, whose commission is increased by an increase in the builder's bills; he pays the surveyor, whose commission is likewise increased by a similar augmentation of the builder's bills, because it is charged for by the builder; lastly, he pays the builder. With good old conservative sentiment, proprietors believe that their safety in building transactions lies in numbers, oblivious of the fact that, from first to last, good faith almost always depends upon the architect's personal sense of honour. Even though in the majority of cases the trust reposed in the several parties—and by them—is not abused, the complication itself is an abuse; and many people, both in London and Paris, believe that architects receive a pecuniary commission from both those who employ them and the builders they employ. As a commercial transaction it would be a legitimate proceeding, and before the foundation of the Royal Institute of British Architects, it was almost recognised as the custom of the profession. At the close of the year 1870, Professor DONALDSON, in proposing a vote of thanks to the President of the Institute for his address, said:—"I recollect the profession before many here—for about half a century: at that time there was a very intimate connection between architects and builders. There were then at the head of the profession two great men, viz., Mr. SMIRKE and Mr. SOANE, whose reputation and honour were unsullied; but in too many cases the architects and builders shared in the profits. Then a very grave movement took place, and it was determined by some young and ardent spirits that a severance of that connection should take place to remove that scandal. That was the foundation of the Institute." In spite, however, of the enormous reform then effected, an indirect alliance between the architect and the contractor continued in many instances—sometimes unavoidable ones. The present system of paying for the preparation of bills of quantities has led to many ingenious arrangements for evading the appearance of collusion. These bills, instead of being openly presented to the client, are generally shuffled into the contractor's accounts and paid for by the former, often without any cognisance of the fact.

What Sir EDMUND BECKETT wrote in his letter to the Institute on this subject deserves some attention. To him, as well as to all others who understand the matter, the percentage mode of payment, as it is applied to the remuneration of architects, is half a scandal and wholly a jest. It gives, as Sir EDMUND says, "a constant support to the most constant complaint of the public against architects: that their estimates are nearly always exceeded, not so much by miscalculation or mistake in the estimate itself as by the omission of things which the architect must foresee will be wanted though his employer, for want of experience does not . . . People, in general, naturally set down every suggestion of the architect for an improvement to a wish to increase his own bill so long as it depends on the cost of the building, and every omission to a desire to make the employer believe that he was going to spend much less than the architect well knew would be necessary." There are yet greater defects in the percentage system which is as prejudicial to the interests of employers generally as it is to those of the professional man; the more labour expended upon devising and reducing a design within certain limits for purposes of economy, the less will be the remuneration received by the designer. Again, however great may be the experience, however supreme the talent of one, he receives exactly the same scale of pay as another of small experience and perhaps no talent or technical education whatever. While the modern architect has to endure insinuation and even insult from the actual manner of paying him, he is abused for his system of working. His very title is an anomaly. Since the days of PHILIPPE DELORME he has not practised his art, as it is known to have been practised in Western Europe, during the period of indigenous architecture. He is no longer an architect but an art-architect; nevertheless he is less of an artist than a business man. Though there is still a conscientious minority who continue to execute buildings with the spirit and the integrity of their Mediaeval forefathers, there is also a vast number who are of very different stamp, if the late Mr. ARTHUR ASHPITEL is to be relied on. In 1864 he told the Institute that there were "some men who might be called 'art-architect brokers'—men who could not design, but who bought their designs from cleverer and poorer men than themselves, and foisted them upon the public as their own." That this commercial phase of the system not only still exists, but that it is increasing, is proved by the number of advertisements offering to practitioners and others assistance of every description. Nor are the sinners in this respect to be found only amongst the numerous quacks who, in public estimation, hold an equal position with really qualified archi-

note. There is nothing, however, dishonourable in the trade in designs which is carried on with unequivocal success. Could it be shown that new buildings betray greater knowledge of construction than those which were built thirty years ago, it would be unjustifiable to lament that the broker should have thus permeated all parts of the profession. People must live, and art is a means of livelihood; it is therefore not illogical for critics, who think that modern architecture is not improving, to argue that the only sure means of raising the building art from the unsatisfactory state in which it is sunk is by the total abolition of the middle-man, be he broker, agent, or so-called architect.

OUR RAMBLER IN BATH.

EVERYONE knows that Bath is an English city with a history. There is, however, no city of our England so endowed that to the architectural rambler seems so destitute of mediæval antiquities, or of (above ground) antiquities of any kind. Subterranean Bath is ancient enough in all conscience. If anyone will dig around the Abbey Church he will come in time on vast remains of the original Norman monastery, over only a small portion of which the church, as we see it, is built; and if from mere digging the antiquary should proceed to research into historical records, he will soon come upon, what Lord MACAULAY terms, "the twilight of fable." The local guide book gives a pretty fair assurance of the fact when, on its opening page, it proceeds to "remind the stranger that he is standing on classic ground, where the Romans, in the plenitude of their power, and with all the luxuries of their civilisation, made themselves a local habitation and a name. Nay," continues the oracle, "should a term of some eighteen centuries be thought no very long period to traverse, there is still a mythical or legendary history associated with Bath which carries us back to a time coeval with King SOLOMON, if not earlier."

After this let us take Bath as we find it in 1875, the Bath in fact of REAU NASH and the eighteenth century, and the Bath, as we may designate it, of Sir WILLIAM TITE, who for little short of a score of years represented the city in Parliament.

NASH himself lies buried in the Abbey Church, which has for some ten years past been in the restoring hands of Sir GILBERT SCOTT, who has wholly re-arranged the interior of the edifice so as to throw nave and choir, separated when he first took them in hand, into a spacious—or rather commodious—parish church. Certainly nothing can well be finer than the internal aspect of the building as one looks at its general masonic proportions. The very obvious inequality of the quadrangular lantern that, when viewing the exterior of the structure, disconcerts the beholder, imparts to the interior an air of grandeur, giving to the transepts an apparent loftiness the comparatively small edifice does not possess. It is hard to say now what difficulties and opposition the architect may have contended with in changing the pew and gallery encumbered structure from what it was in 1860 into what we see it to-day; otherwise we should demur altogether to the disposition of the easternmost arm of the cross, crowded to repletion with lofty stalls, rich as they are with variegated tracery. As to the disposal of its easternmost end, Sir GILBERT seems to have very summarily dealt with the famous "North-end" controversy, by carrying, what we may term in courtesy the *deixis*, right across the choir from north to south. Several very costly painted windows have been put up in the church, some of which—especially those by Mr. HUGHES and Messrs. CLAYTON & BELL, were remarkable for their ample use of white light—struck us as being very beautiful. It appears from the speeches and report of the tenth annual meeting of the Restoration Committee, held a few weeks past (at which, by-the-by, spoke a Colonel INIGO JONES) there was an overdrawn bankers' account of 1,000*l.* and a sum of 1,550*l.* still owing to the contractors. Much yet remains to be done to this fine edifice—especially to its exterior—and great efforts are now being made to raise suitable funds for the work.

If there be any other mediæval structure in Bath we failed to notice it. Hence and there the student, who thinks it worth his while, may find in and around the city some Queen Anne work to sketch; but the general aspect of old Bath is unmistakably Georgian. Having a special admiration for "Wood, of Bath," the architect of the Liverpool Town Hall and the crescent at Buxton; we were not a little disappointed to find so few considerable works of his in Bath itself. However, the style in which he excelled—Palladian Classic—everywhere presents itself: some of it very early of its kind, and very quaint. The Royal Crescent, spacious though it is, may be dismissed as a thing void of all individuality; we may say the like of the Grand Pump Room and the Assembly Room; but it is something noteworthy to come upon a complete rotunda of freestone, such as the Circus of Bath, with its three storeys of fully-developed Doric, Ionic, and Corinthian, arranged in coupled columns all around. Bath must indeed have been a prosperous city when this recklessly ornate circus was projected, and even carried to completion, with even the carved metopes of its Doric frieze, and all its other architectonic belongings. The mere extravagance of the completed project—for there is little merit in the design—is a surprise worth enjoying.

The Guildhall of Bath, another Palladian structure, is something more. Its style is for the time exploded; but we should much

like to know how many of our present public structures of its size are equal in dignity of aspect and charming proportion to the old Georgian Guildhall of Bath. Its features are commonplace enough—a Composite superstructure of three pavilions on a rusticated basement; in the centre, a pediment crowned with a figure of Justice; that is all. But the charm of the façade (well returned at each flank, and cleverly balanced by the more modern Market House and Municipal Offices, as wings on each side) lies in the well-studied disposition of these commonplace features. Let us take another aggregation of such features, and see how they are handled in Bath. Every large railway terminus in the kingdom contains a big view of the Pump Room Hotel—we beg pardon, the "Grand Pump Room Hotel"—at Bath. Here we have, as in the old Georgian Guildhall, the commonplace Victorian features, without one atom of the charm. Stone there is: good sightly ashlar, and good workmanship to boot. But how about the design? A fine frontage, favourably disposed as a shallow quadrangle, having a long Corinthian colonnade with attic on a rusticated arcade; but everything is out of proportion. The columns and their supporting arcade are far too tall and too closely set; while the former, by their insufficient *entablature* (or their entire lack of it), have a starved-out aspect, quite uninviting to fastidious guests, who may happen to survey the *façade*, ere they make trial of the *cuisine* of the Grand Hotel.

Who designed the Guildhall is not very clear; but the more recently built market-house and municipal offices have been erected from the designs of Messrs. HICKES & ISAACS. The markets are designed on a most peculiar plan, in concentric avenues connected by radiating alleys, a plan that seems singularly well adapted for separating the various provision trades.

Connected with the Guildhall by a subterranean passage is the new police station in the Orange Grove, one of the few recently-built secular structures. It has a well-proportioned and cleverly composed front, designed by Mr. C. E. DAVIS, architect, of Bath. At the junction of George and Milsom Streets a large stone building, covered with scaffolding, is now being erected by Mr. J. LONE, contractor, from the designs of Mr. C. M. SILLER, architect, for the Wilts and Dorset Banking Company: the style Italian; and, as far as one may judge, boldly and effectively carried out. In the Pultney Road are some large new villas, and the recently built convent of the Sisters of La Sainte Union, a fairly designed pointed structure; but beyond the works already noted there is little of domestic or commercial building going on in Bath. What new buildings there are are chiefly of an ecclesiastical character, and with a brief notice of them we may conclude our remarks on the architecture of Bath.

Before doing this, however, we ought to make mention of some of the most noteworthy churches of an older date, Victorian or Georgian, the very earliest of them. Of these the two most considerable works are the church of St. Michael, in Northgate, and the steeple of St. James's Church, in Southgate, both designed by one architect, Mr. MANNERS, of Bath. Both of these edifices occupy very restricted sites, having their towers placed at the acute intersection of two streets. St. Michael's is externally a structure of, what was considered in the early Victorian age, "Early English" architecture. It has a lofty tower crowned with an octangular spire rising from a lantern, gabled on all its eight faces. Tall triplet windows light the lower part of the tower and the entire church, divided by heavily-moulded buttresses. Internally the edifice is a high-pewed, galleried *auditorium*, with groined ceilings of plaster. The tower of St. James's Church is an Anglo-Classic work, added to an older church, and far more successful in design. It is carried up square for a very considerable height, finished with a parapet with well-designed open minarets at the four corners, and surmounted with an open octangular lantern with ogive roof and lofty vane, the whole composition (evidently a careful study of WREN's campaniles) forming a graceful feature in every distant view of the city. St. Matthew's Church is another of Mr. MANNERS' works, and far more successful as a structure of revived Pointed architecture than St. Michael's; it is in the Decorated style, with good span roofs to nave and aisles, and a fair broach spire. St. Mary's, Bathwick, and St. Saviour's churches were both designed by Mr. PINCH, architect, and are very fair samples of Georgian Perpendicular. A large new chancel, with a seven-light Decorated east window, is just now being added to the former of these edifices, the contractor for the works being Mr. MANN. Two very Flamboyant edifices may be seen in the Wesleyan Chapel, New King Street, and in Trinity Church, Lower James Street, the latter structure clumsy to excess outside, and having a most gloomy interior.

There are other churches of this date in and about the city, and some few other Nonconformist places of worship, but they possess too little architectural pretension to justify any detailed notice of their merits. The new churches of Bath deserve a more minute description.

Messrs. Agnew have opened their annual exhibition of paintings in Manchester. Among the works are:—*Millais' North-West Passage, Winter Fuel, and Gambler's Wife*; *Calderon's Half Hours with the Best Authors, and Queen of the Tournament*; *Linnell's Rain Cloud*, *Graham's Sea Birds' Home*, and *Gilbert's Battle of Marston Moor*.

SEVERITY IN CHURCH ARCHITECTURE.

BY AN OCCASIONAL CORRESPONDENT.

THERE are few things more difficult to understand thoroughly than the exact limit between true severity and reasonable artistic license in architecture. At times the reins of fancy may be loosened, but in order to direct its efforts properly a great nicety of touch is needful. Many people cannot see the distinction between severity and mere baldness. Severity does not necessarily imply coldness, and need not produce any repellent feeling. For example, until the recent restorations at Salisbury Cathedral were commenced, it was a universal complaint that the interior of the building was cold, notwithstanding its abundance of mouldings and decorative features. This had evidently nothing to do with the architecture, which was rich, nor did the feeling have its rise in regret at the paucity of window tracery. The untinted walls with their crude greyness, the white glazing, with only occasionally a morsel of colour to cheer the eye, together with the absence of well-designed furniture in the shape of canopied stalls, may have contributed to the sombre appearance. Yet there is no reason why the plainest building with square orders and reveals, and perhaps scarcely the smallest fragment of moulding, may not possess a warmth and attractiveness lacking in a structure strictly ornamental. The material mainly employed will of course have some effect, but there are likewise other subtle efforts at work, which it behoves the architect to study, as I shall presently endeavour to point out. Let him diligently use his eyes when he travels at home or abroad, and watch with care how certain good effects are obtained, and store his mind with such images.

In all ages in the decadence of the purer styles, men have been tempted by a spirit of *restlessness*. Ancient Greece may happily be said to have scarce known such a foe, but Rome in her latter days was but too well acquainted with this vice, while in the period of the Renaissance Borromini and Bernini were conspicuous victims. At the present time restlessness (or fussiness) is rampant everywhere, though perhaps its greatest successes are not in the realms of church architecture, but in secular and domestic work, particularly in the City of London. How one sighs for a little repose, a little quiet, after the endless changes, the frittered-up ornament that so abound. The fault does not rest entirely with the indifferent architect; men of eminence are often as bad, in fact, we are all more or less sinners in this respect, for the simple reason that fussiness is a characteristic modern failing. There is this distinction, however, between good and bad architecture—that though both be overdone, the former, notwithstanding its inherent fault, is not vulgar.

In the Middle Ages we find queer specimens of Gothic caryatides, so to speak, acting as corbels, or heads stuck on at the termination of label mouldings, and angels with outspread wings at the ends of hammer-beams to roofs. In most of these cases, however, there are architectural features, such as mouldings, &c., to connect the sculpture with the rest of the masonry. But in several modern churches I have seen chancel arches resting on a shaft which terminates some way from the floor, being stuck straight into the back of an angel's wings, without a single moulding to break up the crudity of the design. This is sensational and "clap-trap." It is a moot point whether in any case such things are permissible; even when well managed, such a treatment is obviously not architectural severity. In sculpture, when unconnected with its sister art, the same sensational feeling exists, such as the skilful management of lacework covering, but not concealing, the human form, or the exaggerated representation of garments tossed about by a strong wind. Again, the remark may be applied to grotesques like gargoyles and label terminations; or to mitred abbots and crowned kings, minus a body, apparently creeping out of circular panels. There is one very clever architect, Mr. Burges, who evidently exults in these little bits of pleasantry, such as a scaly crawling lizard with curly tail emerging from the end of a string-course, or fierce-looking animals crouching under the corbels to an oriel-like stone gallery, near which a man of peace, the organist, will have to sit. Meanwhile, huge dogs, with a kind of cap (this is a heraldic device) squat on the top of the buttresses at the east end of the chancel. These peculiar features exist at the memorial church, not yet completed, at Skellton, near Ripon. (It would be unfair, however, to omit saying, that however one may criticise this remarkable church, the design bears every evidence of original thought and vigour, and possesses many noteworthy features.) But it would be foreign to the purport of this article to enlarge further upon this building, for we still have to ask, "What, then, is severity in architecture?"

Certainly, the eccentric objects above named are not severe. Perhaps a better answer could not be given than a command to diligently study the earlier Cistercian abbeys. Take the very shell of one of these buildings, with plain walls, not a particle of colour or sculpture, without a lofty central tower (perhaps even destitute of a tower of any kind), with a comparatively short chancel. Is the effect poor, or dull, or cold? Just the contrary. Yet I will venture to affirm that any one of these churches is capable of the very highest degree of ornamentation, be it mosaic, painted glass, fresco, marble pavements, or gorgeous furniture, and yet not lose its

character for severity. Heaven forbid that any ruthless hand of the nineteenth century should experiment on any one of the existing abbeys, such as Fountains or Kirkstall! Such a violation of the strict rules of the order would be enough to rouse the Cistercian monk from his long slumber. Rievaulx and Tintern Abbeys are examples of Cistercian architecture at a date when the rules of the order were somewhat relaxed. In those instances richer mouldings with foliage carving and window tracery (in the latter structure) are to be seen. Mr. Sharpe, the very able exponent of the Cistercians, is a man who probably enters more into what their feelings may have been than almost any one. A few years since he wrote in depreciation of colour in churches, and has recently recurred again to the subject at the late meeting of the Royal Archaeological Institute at Ripon. Now, I can see no reason why a modern church should not be designed, as respects its main architectural lines, on Cistercian principles, and yet be thoroughly rich in its tone and full of colour decoration. I will endeavour to explain my meaning, and to show that I aim at no hyperbole, and am stating nothing anomalous.

Let the nave be wide and lofty, with or without triforium, but certainly with a well-developed clerestory, crowned by either a stone barrel vault or quadripartite groining. When the cost of groining is too great, stone arches, instead of principals, might be used. Let the walls be thick (particularly the western), so as to obtain plenty of shadow and depths of reveal; the nave piers very substantial, either square or cylindrical in plan, at any rate not composed of bundles of reed-like shafts, or sunk out and weakened by numerous hollows. Let me not be misunderstood; if the general tone of the church is to be decidedly ornamental, shafts of fair diameter attached to square orders, as in Romanesque and Early English, or rather Transitional work, have a majestic and dignified effect, very different to those of the late Decorated and Perpendicular periods, where the piers are frittered up into small weak sub-divisions. I think that even the capitals may be sometimes dispensed with, and a kind of abacus mould or string course substituted, above which the arches might commence to spring. Perchance also the arrangement of the earlier basilican churches of Rome might be adopted, *i.e.*, by abolishing side arcades altogether and using stone lintels instead, putting the columns close together. There is no doubt that such a treatment, by the multiplication of sub-divisions, gives greater apparent length to the building. In any case, I will imagine that the piers are simple, and not complex in plan.

It need scarcely be said that after advocating massive piers (necessarily involving thick walls above), it is not intended to recommend wide aisles, which would practically be of little use to those who want to see and hear. So, let the aisles be narrow, roofed, perhaps, in stone, so that the external and internal covering are the same. There seems no objection to this treatment where the span is small. For obvious atmospheric causes,* such construction is not applicable to ordinary roofs, if any comfort to the worshippers is to be looked for, notwithstanding that in mediæval times examples of this kind have been met with in Ireland, as well as in Spain.

We will picture lancet-headed windows, of fair width, or possibly couplets with a bold circle over them, which may sometimes be cusped in a simple manner with advantage. I would not advocate that species of crude plate tracery which looks as if it were cardboard merely punched through. I would plead for, at least, a bold roll moulding, or chamfer, to the tracery, leaving the spandrels quiet and unperforated. Nothing can look worse than an elaborate geometrical rose-window of a French type with raw square edges to its richly-formed design, just as if it had been cut out of zinc. Congregational chapels are frequent offenders in this respect. The aisle windows as a rule should be small and unobtrusively treated, because the space between them is wanted for mural decoration. If tempera paintings or mosaic pictures are to form an integral part of the design at the time of the erection of the building, the aisle side walls had best be left altogether unpierced, and thus ample scope afforded to the hand of the artists. Large clerestory windows will help to throw an effectual and charming light on them.

Proceeding eastwards we arrive at the crux, surmounted by a lantern tower (not necessarily square in plan, but if more convenient, oblong) with pseudo-transepts. I rather dislike the prefix "pseudo," but I wish to explain that transepts of very shallow projection are pointed at. Beyond would be the presbytery (the ritual choir being under the lantern), and then the sanctuary, with possibly a morning chapel further east, behind the reredos, forming a separate smaller building, roofed at a lower level, divided from the choir by an ambulatory or aisle, the arches of which open into the choir. The most convenient position for the organ would be in one of the arms of the transept, while the vestries might form an aisle to the chancel. A porch is certainly most desirable, and this might be at the west end (as was formerly the case with several of the Yorkshire Cistercian Abbeys), under a lean-to roof, entered by north and south archways, thus reducing the amount of draught and cold air.

Such is a brief description of what I conceive the aspect of the interior shell of a severe church might be—the details must widely vary, according to local circumstances. Still I have said enough to found my argument. Severity should be the rule, but an occasional relaxation of it will often have a most happy effect. The relaxation should rather be in the minor and less conspicuous features, not in the dominant architectural lines. For example, a little playfulness is allowable in such a detail as a pair of strap-hinges, a label termination, a boss, a door-handle. Dignified architecture should not descend to absolute grimness, nor on the other hand should license in carving and sculpture degenerate into mere buffoonery.

(To be continued.)

* See *Architect*, June 20, 1874.

STANDARDS OF LENGTH.

IT seems hardly credible, but still it is the fact, that there does not exist in England a legal standard of that 66-feet surveyor's chain which is probably the most important measure in the country. For generations it has been employed in all measurements of land, and our acres, roods, and perches have been determined by it, and estates and farms have been sold, partitioned, and let by its aid, while, in connection with these transactions, it has been the source of innumerable law-suits through the uncertainty of its length. But, notwithstanding its importance, the authorities, in either past or present times, have been slow to fix a standard for this measure. There are, no doubt, standards for feet and yards and smaller divisions to be found deposited in different parts of the country; but not one for the combination of these in the largest of our recognised measures, and where extreme accuracy is sought, it is all but impossible to obtain even 66 feet correctly by such a roundabout process as using a foot or a yard length as a unit. In works of construction on a large scale, a 100-feet chain is sometimes used instead of the 66-feet chain; but for this, also, there is no standard. It thus happens that the measures on which all surveying depends are left to chance for their correctness. We know that those who use the chains take steps to verify their length by the best means that may be obtained, but there is not much that may be considered as definite about these processes, for the means afforded too often are no more than a comparison of one chain with another that happens to have been little used. And yet there is a stronger necessity for testing the larger measures than those of yards and feet, of which the weights and measures departments in our towns sometimes take cognizance. Unless there is actual fraud, the latter are not likely to become altered in length during many years; but the best-made chain, made up of steel links, after it has been dragged over an ordinary country for a few months or even less, always requires some adjustment. As for the tape measures of 66 or 100 feet, since they are more likely to be affected by work and variations of temperature, they seldom are exact, and are not readily rectified, but for these reasons there ought to be an easy opportunity everywhere to test them. When it is remembered how much depends on correctness of measurement, and the loss that may be entailed through a tape or a chain being in excess or short of its proper length, the necessity of a recognised legal standard becomes manifest without further consideration.

The importance of having public standards of length was recognised by the Standards Commission, and a few years since it was proposed to lay them down in the quadrangle of the new Government offices at Westminster. But since then it was ascertained that, from the limited area, those referring to chains could not be placed there. The Warden of the Standards, in his last report, suggests that a fitting place would be the space between the north wall and the foot-pavement of the New Palace Yard, which besides would have some advantage from its proximity to the Committee Rooms of the Houses of Parliament, where, he says, questions arise from time to time as to the accuracy of surveyors' chains, and hitherto no means have existed of satisfactorily settling them by actual measurements. Here, the 100 feet as well as the 66 feet would be marked, and if they were once completed, they might be prescribed as the legal standards by Her Majesty's Order in Council under the Standards Act of 1866. It appears also according to the Report that a length of a chain of 66 feet, with divisions of 50 and 33 feet, has been laid down on the ground-floor of the Standards Department, being marked on iron plates screwed into the floor. Surveyors' chains can be tested by securing one of the handles of the chain to a fixed stud at the 0 end of the 66-feet chain laid down, and by pulling the other handle over a graduated scale extending on each side of the 66 feet defining line by means of an iron claw attached to a flexible chain, at the other end of which, hanging over a pulley, is fastened a 20-lbs. weight, thus exercising a uniform pulling force. This method of straightening the chain was employed by the Ordnance officers under General Roy in 1784, when using an accurately-made steel chain for measuring the base line on Hounslow Heath. But it is not stated how many surveyors have taken advantage of this standard. Few are likely to bring their chains to such a place. What is needed is one which might be always accessible, and the site pointed out by the Warden of the Standards would answer well enough for the metropolis.

THE HOUSES OF PARLIAMENT.

THE gas signal-light on the clock tower of the Houses of Parliament is to be exhibited during the ensuing Session in the same position as previously until Easter when the existing lantern, which has been much complained of, but which was never intended to be permanent, will be removed, and the light shown at an elevation 30 feet higher. The lantern containing it will be protruded from the tower every night, and withdrawn after the light is extinguished, so that during the day it will be invisible.

The wood pavement in the Commons' Court, the Commons' Inner Court, the Peers' Inner Court, and the South Return has been replaced by asphalt. Owing to this alteration, it will be possible to keep those courts much cleaner than heretofore, and the air supplied to both Houses of Parliament will not be contaminated with the odorous matter evolved from the decaying wood of the former pavement, which was sometimes, especially in hot weather, distinctly perceptible.

The walls of the principal staircase to the Commons' Committee-rooms have been cleaned and coated with an indurating composition. The decayed outer stonework of the building has been removed in many parts and replaced by fresh and carefully-selected material of the same kind—Bolsover dolomite. The embankment at the south or Victoria Tower end has been commenced. The frescos by Mr. Cope in the Peers' Lobby corridor have been glazed. The efflorescence which had appeared extensively over Maclellan's water-glass painting of the meeting of Wellington and Blücher, and which it was feared by many persons could not be taken off without serious injury to the painting, has been, as is more fully explained in another column, effectually removed by the careful manipulation of Mr. Richmond, without, it is believed, the slightest injury to the picture.

THE THEATRE.

IF a pleasing face, clever acting, and sweet singing can make a theatrical success, "La Perichole" at the Royalty should certainly be one; for Madame Selina Dolaro, in all she had to do, say, or sing on last Saturday night, was charming. *Charming* is just the word, for she literally charmed her audience into continued and irresistible rounds of applause. How far the delicacy of her impersonation will suffer by repetition is questionable. On Saturday not the faintest shade of vulgarity marred the tipsy scene, but it is so easy to overdo such a part that it will require the greatest care and the most watchful temperance to avoid the tendency to exaggerate which repetition encourages through the fear in the actor's mind lest his work should fall flat. We thoroughly agree with our contemporary the *Pall Mall Gazette* in believing that it is possible for an Opera Bouffe to obtain success without the help of the can-can, or unnecessary exhibition of the thicker limbs. At the same time we do not see that everything is so completely *coulour de rose* as some of the critics would have us believe. For instance, nothing could be less attractive in an artistic point of view than the scenery, and especially that of the second act. The painting is of the commonest character, and the details are loud and vulgar. So too in the case of the costumes, although one or two may be admitted as passable, the mass of them are ugly without being funny; the toilet of the ladies of the Court being remarkable for the absence of anything which could be characterised as graceful or quaint or appropriate. Mr. C. W. Norton has not much in his part, but he is essentially funny, and maintains his character with great cleverness from beginning to end. The opera is preceded by a wretched adaptation from the French called "Awaking," of which it is enough to say that the paper on the walls in the scene is quite sufficient to account for the madness of Mr. Lin Rayne.

THE SOCIETY OF ENGINEERS.

THE first ordinary meeting of the Society of Engineers for the present year was held on Monday evening, in the Society's Hall, Westminster Chambers, Victoria Street. At the conclusion of the ordinary routine business, the retiring President, Mr. W. Macgeorge, presented the premiums of books which had been awarded to the following gentlemen for Papers read during the past year, viz.—To Mr. J. Phillips, for his Paper on "The Forms and Construction of Channels for the Conveyance of Sewage," which has been published in the *Architect*; to Mr. G. G. Andre, for his Paper on "The Ventilation of Coal Mines," and to Mr. S. H. Cox for his Paper on "Recent Improvements in Tin Dressing Machinery." The premiums having been presented, Mr. Macgeorge retired from the Chair, receiving a warm vote of thanks from the meeting. He then introduced to the members the President for 1875, Mr. John Henry Adams, who proceeded to deliver his inaugural address.

After thanking the members for having placed him in the Presidential Chair, Mr. Adams referred to the steady progress made by the Society during the past year, observing that a number of new members had been added to the list, whilst the balance-sheet bore testimony to the satisfactory condition of the finances. He reviewed the Papers read during the past session, which had afforded much practical knowledge not obtainable by other means. The President then proceeded to notice the visits which had been made by the Society to various engineering works during the vacation of 1874. Chief amongst those were the London Yard Engineering Works; the Ransome Stone Works at East Greenwich; the new station of the Imperial Gaslight Company at Bromley; the Works of the Thames Plate Glass Company at Blackwall; the Rope Works of Messrs. Frost, Brothers, at Shadwell; the twin ship *Castalia*, and Henley's Telegraph Works at North Woolwich, the main engineering and scientific features of which were described by the President. After recommending the members to evince an active interest in the Society by attending its meetings and vacation trips, and by contributing Papers, and joining in discussions, the President referred to the deaths which had occurred in the Society during the year. He regretted having to inform the members that during the past year the Society had had the misfortune to lose by death, Mr. Henry Dircks; Mr. William Martley, of Longhedge Works; Mr. Robert Broad, of the Horsley Iron Works; Mr. James B. Greene, of Newport, Monmouthshire; Lieutenant Gordon Bigsby, R.E., and Sir William Fairbairn, F.R.S., whose deaths had occurred in the order in which their names were mentioned. After giving a brief memoir of each gentleman the President turned to professional subjects of general interest, pointing out the practical progress the science of Engineering had made during the past year. This was exemplified by a reference to railway works commenced or completed within the year; to the present position and practice of electric telegraphy; to the attempts now being made to improve the Channel passage; to various metropolitan improvements, and to several new mechanical devices which had been introduced to public notice during the past twelve months. All of these matters were described by the President, who closed an interesting address by a reference to the value and importance of the science of Engineering.

The address was well received by an appreciative audience, and at its close a cordial vote of thanks was accorded to the President. The concluding proceedings consisted in the election of several new members and associates.

The Annual Exhibition of the Glasgow Fine Art Institute is now open. Among the paintings are Gustave Doré's *Midsummer Night's Dream*, Mr. Fildes' *Applicants for Admission to a Casual Ward*, a replica of M. Alma-Tadema's *Interior of a Roman Studio*, Mr. Pettie's *Terms to the Besieged*, and Mr. Erskine Nicol's *Past Work*.

ILLUSTRATIONS.

DESIGN FOR PUBLIC LIBRARY.

THE design by Mr. PHILIP J. MARVIN, which we publish this week, obtained the Travelling Studentship of the Royal Academy at the last examination. The conditions which were assigned, among others, stipulated that the area was not to exceed 50,000 square feet. A large central room was supposed to be reached from the principal entrance, which was supposed to open into a square, and along the front and partly at the sides would be suites of rooms for prints and other objects. In one of the side streets would be the entrance to the circulating library, and reading-room for magazines and newspapers, and on the opposite the principal librarian's residence was placed. At the rear would be the porter's and packing departments. Stone was supposed to be used for the walls, with roofs of red tiles. The tower was designed to contain a large tank of water to ensure safety in case of fire.

The heating would be by an apparatus placed at the back, except the principal librarian's house, which would have the usual open fires, but as this is farthest from the spectator, no chimneys are seen in the perspective.

NOTRE DAME, ALET (AUDE).

A SUDDEN turn in the road that follows the windings of the river Aude from Limoux to Quillan discloses to view a fragment of an old tower, whose base is surrounded by lower ruins half hidden by trees and the few small cottages which are all that now remain of Alet. The destruction of the ancient monastery (first founded in 813 by BERA, Duke of Septimania and Count of Barcelona, at the request of ROMILIA, his wife) has been most complete, and of its church of Notre Dame (which became a cathedral in 1318, when JOHN XXII. transferred hither the see of Limoux) little remains save the walls of the nave and the eastern apse, of which drawings are published now. The elaboration and boldness of the carving, however, the massiveness of the remaining walls, and the classic forms of all the ornament, make this one of the grandest and most interesting examples of Romanesque work in the south of France. The windows in the south wall of the nave are particularly beautiful, being, as it were, framed with bands of carving running round the arches and down the jambs. The whole of the work appears to have been executed in 1013, when the monastery was almost entirely rebuilt.

Pope LEON is the first whose name I find connected with the abbey, he having sent some relics in exchange for a triennial tribute of a pound of silver. Pope PASCAL II. granted, by bulls in 1115 and 1119, the abbey of St. Polycarp to the monks of Alet, to the detriment of the Monastery de la Grasse; and in 1176 ROGER, Viscount of Beziers and Carcassonne, gave them possessions in the district of Limoux. A strange scene passed in this abbey in 1197, when, after the death of PONS AMALII, Abbot of Alet, BERNARD DE ST. FERRÉOL, Abbot of St. Polycarp, succeeded him. BERNARD DE SAISSAC, who was then Protector to the infant Viscount of Beziers, Suzeraine of Alet, objected to the nomination of the new abbot, and, having taken the abbey by storm, imprisoned him, exhumed the corpse of PONS AMALII, placed it in derision in the abbot's throne, and in a mock chapter had one of his own creatures, BOYON by name, elected abbot. In 1222 BOYON was degraded in a council held at Puy, and the abbey secularised and given to the Archbishop of Narbonne. In 1233 the old orthodox monks were replaced in the monastery of Alet, but half their lands remained alienated from them.

In the sixteenth century the history of Alet is again a dark one. Taken in 1573 by the religionists, it was retaken soon after by the Catholics under the Duke DE LA JOYEUSE. In 1585 the Calvinists fled to the abbey for shelter from their adversaries, but were massacred by the monks without pity.

I may add, for the benefit of tourists, that there is an inn at Alet, which, though small and primitive, I found by no means unbearable.

F. C. D.

COMPETITIONS.

UNDER this heading we propose to give each week, or as often as may be necessary, a brief account of the conditions of such competitions as may at the time be open to the profession. In doing so we shall point out what conditions have been framed in accordance or at variance with the rules agreed upon at the General Conference of 1872; beyond this it will not be our province to go, our object being to help the reader to ascertain (more than an advertisement can) whether the conditions of a particular competition are likely to meet with his views, rather than to furnish a reprint of such details of requirements, &c., as he must, after all, obtain for himself. The numbers refer to the corresponding paragraphs in the General Conference Rules above mentioned.

Long Eaton Working Men's Co-operative Society.

The object of this little competition is to obtain the working out of a certain pre-determined plan rather than to leave the entire arrangement to the competitor, and for this purpose some lithographed

sketches of general dispositions accompany the conditions and instructions.

1. No professional adviser is promised.

3. The number of drawings required is not stated, and no mention is made of perspectives.

6. No exhibition of the designs is promised.

7, 8. "The designer of the first and approved set of plans to carry out the erection of the buildings at his own scale of fees, less the cost of getting out and printing the conditions and first plans prepared." "The designer of the second best plans to have a premium of 20*l.* for his labour." Both designs to become the property of the society.

The entire cost must not exceed 3,500*l.*, and this amount must include all expenses. Time, February 27.

PRINT ROOM OF THE BRITISH MUSEUM.

WE wonder, now that Mr. Tennyson has declined the baronetcy offered him by the Prime Minister, and that other various honours have returned to the Government as empty as they went out from them, whether it will occur to Mr. Disraeli or his Chancellor of the Exchequer or any other of those gentlemen whose names, and whose names only, appear to have any weight in the management of the British Museum that the country, or at any rate the student part of it, might be benefited by a word or two directed to the acting authorities in reference to the woeful waste of space in many parts of the building, and to the secret manner in which many of its treasures are stored. As an example of this waste of space and secret storage the Print Room is perhaps pre-eminent, for we venture to say there is not one in ten thousand who has the remotest idea of the vast collection of drawings by old masters which are kept in this room carefully out of sight. In the Louvre, at Dresden and other foreign galleries such drawings are openly exhibited, and the value of such a course to young artists and to students of Art generally is hardly to be estimated. If the collection was at South Kensington six months would not elapse before the management there would find a place for its exhibition, and if needs be would erect a special building for its reception. But at the Museum unfortunately everything has been, and we suppose will continue to be, conducted on principles so slow as to be dangerously sluggish, the consequence of which is that the vast educational power held within its walls is in great part rendered ineffective. We are glad, therefore, to find that the *Pall Mall Gazette* is drawing the attention of the public to this store of invaluable drawings in a series of masterly articles, which we hope we may see published in a more permanent form.

THE LIVERPOOL FINE ARTS EXHIBITION.

THE Fine Arts Committee of the Liverpool Corporation have just issued their report on the fourth annual exhibition of pictures, which was held last year from September to December. The exhibition was very successful. Besides season tickets, 36,429 admissions were paid for; and there were no less than 18,000 pupils of all classes admitted gratuitously. The number of works exhibited consisted of 509 oil colours, 568 water colours, 43 pieces of sculpture, and other works of art, forming a total of 1,120. Of these 1,036 were for sale, and 338 were actually sold for sums amounting to 9,558*l.* 5*s.*—205*l.* being expended by the Corporation in works for the permanent gallery of art now in the course of erection.

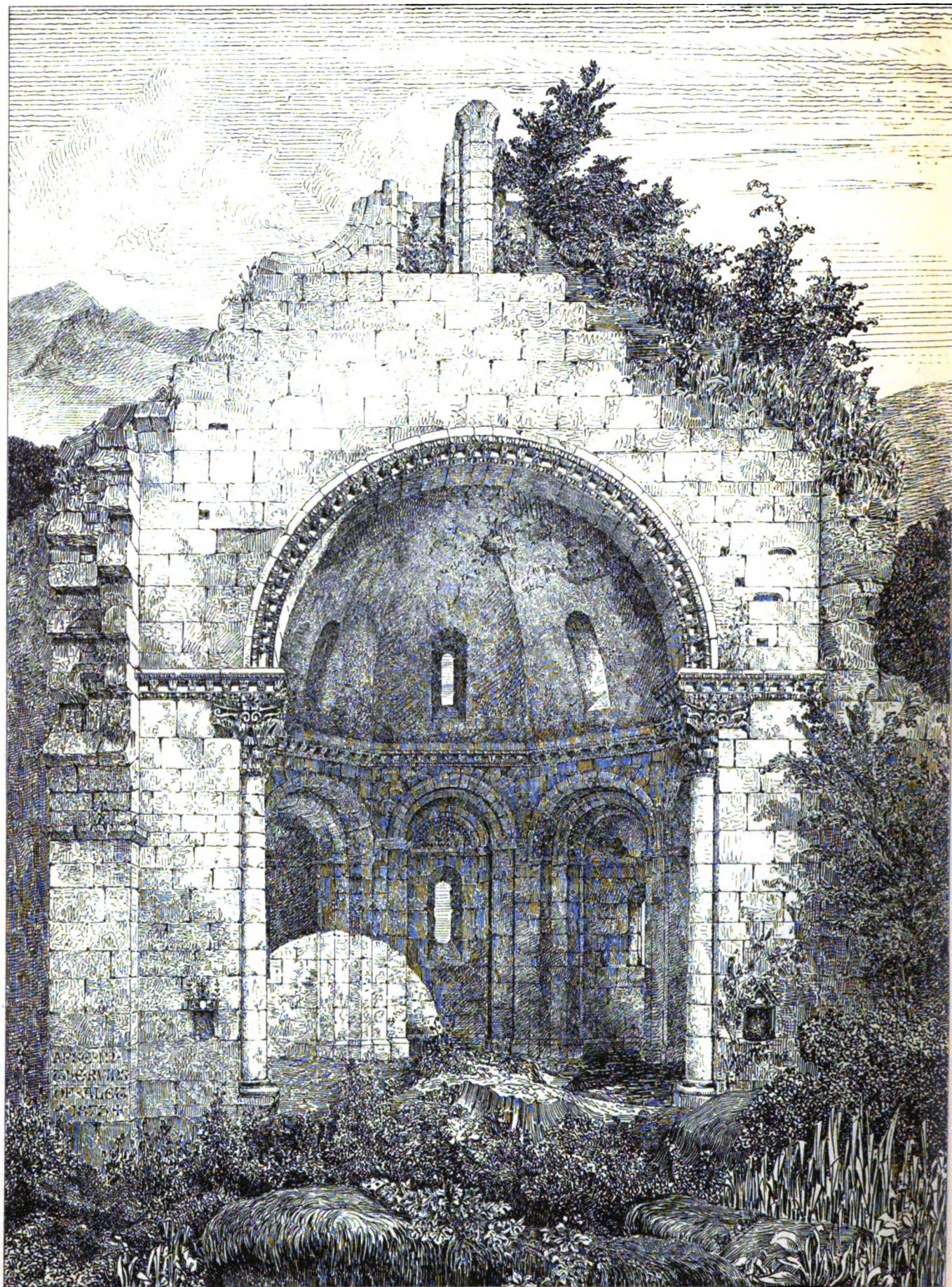
The committee consider that the total amount of sales—considerably the largest reached by this, or, indeed, any provincial exhibition—was very gratifying. The constant access of fresh purchasers shows that a taste and a demand are being created which, without these exhibitions, might not have existed at all. The committee have been solicitous to maintain the exhibition as a medium to enable artists to come into actual communication with purchasers, and are very anxious to discourage any pictures being offered for sale which are not the *bona fide* property of the artist.

The abiding interest felt by artists generally in the exhibition was proved by the fact that, although the committee exerted themselves to hang a larger number of works than they had ever previously done, they were obliged to reject about 700, for which it was impossible to find room.

Though in some cases the committee were compelled, reluctantly, to arrive at a different opinion to that formed by the artist, as to the merit of his work, and the position upon the walls which it deserved, they have received gratifying assurances, that upon the whole the artist world place full reliance on their desire to be just and impartial, and to maintain this confidence they are determined to spare no effort. They feel, however, that some artists may not unnaturally have been disappointed in the position assigned to their pictures, in comparison with others of not greater merit. In some cases the committee have been unable to hang works where they would wish, owing to the aggressive nature of the colour of the pictures, which would have seriously injured their neighbours, and the whole tone of the wall. Young artists should also be careful that they do not, by the size of their canvas, attempt to monopolise too large a space, especially, as is often the case, when the subject is by no means of sufficient importance to warrant it. An artist also should be very sure of his reputation, or of his powers, before he asks a purchaser to give up the whole of the wall of any moderate-sized room to one picture.

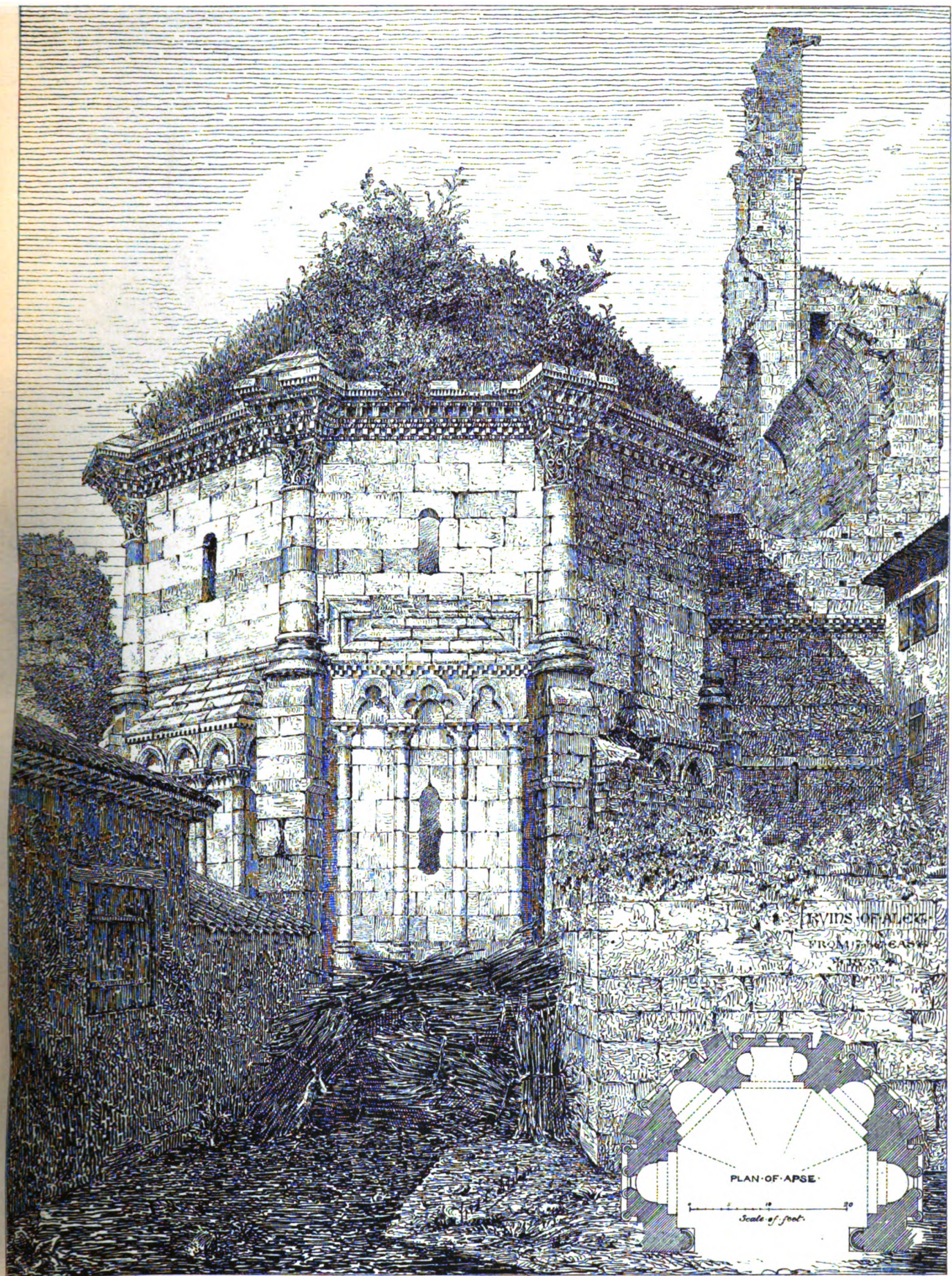
The committee found, on their visit to London last spring, that an impression seemed to prevail that an alteration in the management of the exhibition was probable; and this impression, until removed, appeared to produce a very prejudicial effect among Metropolitan artists. They consider it therefore desirable, in order to prevent any possible misconception to state that no change has been in contemplation by the committee, and that it is intended to open the next exhibition to the public the first Monday in September, and to close it the first Saturday in December, 1875.





RUINS OF NOTRE DAME ALET (AUDE)
DRAWN BY F. C. DESHON

Printed by W. W. Symonds & Co. London E.C.

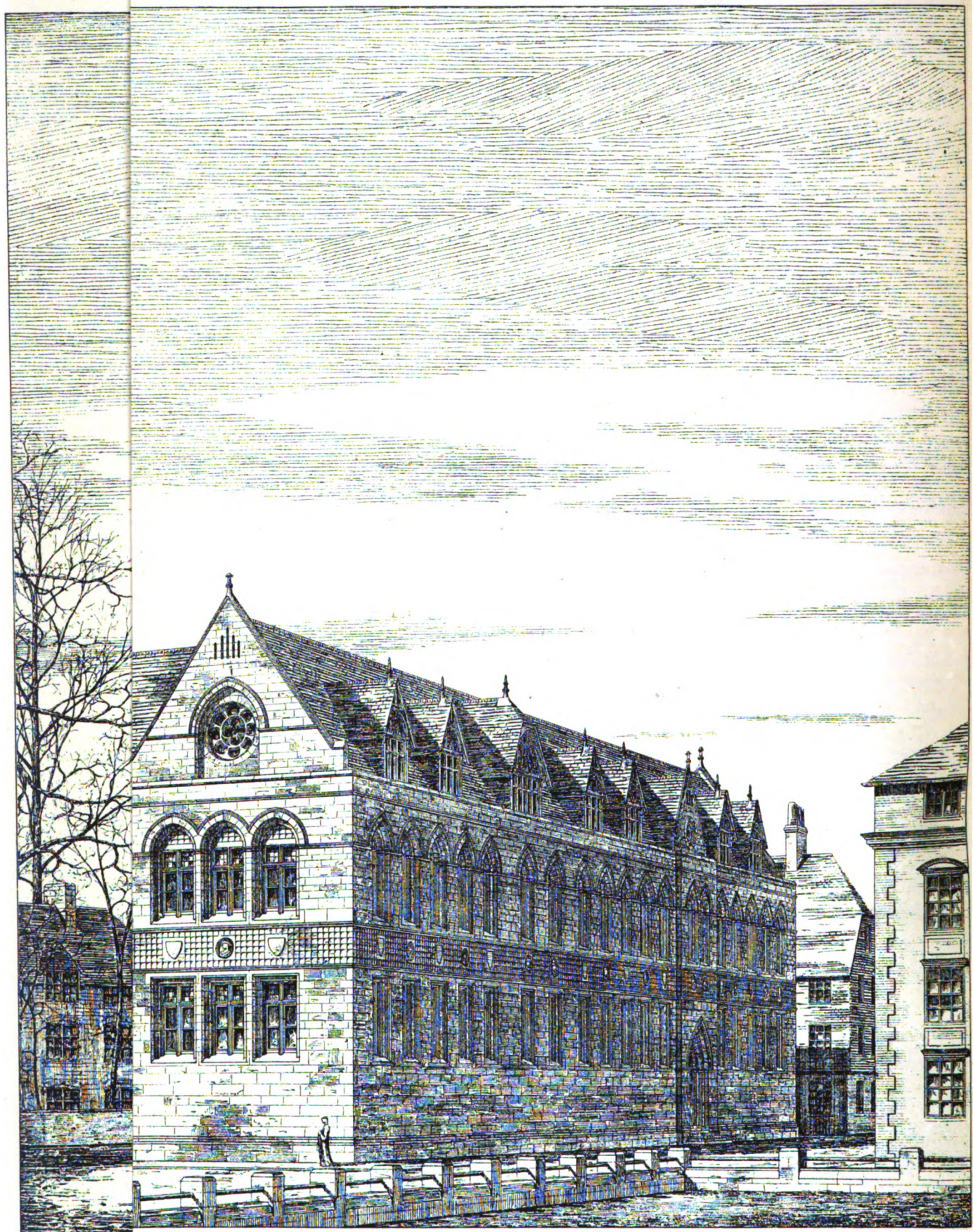


RUINS OF NOTRE DAME ALET (AUDE)
DRAWN BY F C DESHON

Printed by W W Spang & Co London E.C.







Printed by W. W. Spangue & Co. London, E.C.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the ordinary general meeting held on Monday evening, Mr. H. Currey, vice-president, occupied the chair. The minutes of the previous meeting having been read and confirmed, Mr. F. P. COCKERELL (hon. sec.) stated that by mistake the death had been announced on a former occasion of M. Questel—the death of M. Gilbert, not of M. Questel having occurred.

The Royal Gold Medal.

The CHAIRMAN said he had great pleasure in announcing that Mr. Edmund Sharpe, M.A., had, in recognition of his many valuable works, been nominated as the recipient of the Royal Gold Medal for the current year.

A ballot then took place for the election, as Fellow, of Mr. Charles Aldridge, 15 Sweeting Street, Liverpool; and, as Associates, of Mr. Charles A. Legg, 14 Grafton Street, Mile End, and Mr. John Wynne, of 43 Princes Street, Manchester. They were all duly elected. Upon the nomination of Mr. Edmund Sharpe, Mr. Penrose, and Mr. E. C. Robins, the election, as honorary and corresponding member, followed, by acclamation, of M. Emile Beswilwald, of Paris, Officer of the Legion of Honour, Inspector-General of Historical Monuments in France, Architect for the Restoration of Laon Cathedral, and late Architect to the Sainte Chapelle, Paris, as well as to the Cathedrals of Chartres, Bayonne, and Le Mans. M. Beswilwald was said to be known principally by his restorations of Gothic churches, and was acknowledged to be one of the leading Gothic architects of France.

Mr. A. DARNYSHIRE, Fellow, then read a Paper

On Public Abattoirs, with special reference to one recently erected at Manchester.

Mr. DARNYSHIRE said:—Some few years ago the Corporation of Manchester turned its attention to the disreputable state of many slaughter-houses in the city, which, from their filthy condition, were an intolerable nuisance; and owing to many of them occupying sites in the very heart of the town, and in densely-populated neighbourhoods, a demoralising influence was brought to bear, especially on the rising generation; in some localities it became almost a pastime for young children of both sexes to frequent slaughter-houses, and witness the death-struggles of the butchers' victims. This familiarity with scenes of blood and slaughter was justly considered as having an immoral influence, and afforded ample justification for a comprehensive measure of reform. It was also considered that the drainage of the city was vitiated by the existing system of slaughtering; and that, therefore, from a sanitary point of view, it was absolutely necessary some action should be taken to provide a remedy for the existing state of things.

From what I observed at Glasgow, Edinburgh, and Bradford, and also in the latter town from a careful perusal of Mr. Mawson's sketch book, containing the results of his investigation into several continental abattoirs (kindly placed at my disposal), I concluded that the best and most efficient plan for a slaughter-house was that which placed the slaughter-house and lair for cattle under one roof, one in front of the other, with a communication between the two, the lair being entered by the cattle intended for slaughter at the back, and the meat, when dressed and ready for human food, passing out at the front for the purposes of commerce, either wholesale or retail. It then occurred to me that any number of these slaughter-houses and lairs might be associated in parallel blocks, the lairs facing each other with a roadway between, and the slaughter-houses also face to face, divided by a cartway. The peculiar shape of the site, resembling the letter L in form, enabled me to carry out this parallel block system, and to place the carcase market the whole length at the longer arm, with the wholesale slaughter-houses of the carcase butchers immediately behind, with a roadway between.

The site occupied by the Manchester abattoir is situated some little distance from the centre of the city, separated from the Borough of Salford by the River Irwell; it contains 12,840 square yards, and is bounded on its north-easterly side by the River Medlock, and on the north-westerly side by Water Street. The frontage to Water Street is 533 feet; along this frontage is placed the carcase market, extending to a length of 418 feet, the remainder being occupied by the entrance gateway and lodges. Behind the wholesale slaughter-houses in rear of the market, are placed those occupied by the retail butchers; behind these, again, are the blocks of buildings devoted to the pig slaughtering, blood store, and condemned meat, dead and alive. The rest of the site is occupied with a large general lair for cattle, manure pit, and a common room for drovers and butchers' employes.

The Carcase Market, as before remarked, occupies the frontage to Water Street, and is 417 feet 11 inches in length by 55 feet 6 inches wide, is spanned by an iron trussed roof, having sheet iron courses the entire length of the building; the market is lighted exclusively from the roof. As part of my scheme was to facilitate the operation of the carcase butchers as much as possible, and to reduce the labour of moving carcasses to a minimum, four gateways are provided in the street front, communicating with a cartway in the centre of the building; by this arrangement the purchaser of carcasses can drive his cart to the particular bay or stall in the market occupied by the carcase butcher from whom he buys, and by mechanical arrangement, which I shall hereafter describe, the carcasses can be placed in the cart without any lifting or carrying into the street, which was a necessity in the old markets. This roadway is wide enough for two carts to pass, and a very large trade is conducted without any confusion or trouble. In towns where a large export trade is carried on, this roadway might be occupied by a line of railway metals communicating with the main line, provided the site of the market was convenient; by this means the carcasses, after being packed in the usual way, might be deposited in trucks, and with very little trouble despatched direct from the scene of slaughter to their destination. The back wall of the market is pierced with large doorways, directly opposite to the doorways in the wholesale slaughter-houses, a necessity of the mechanical arrangement carried out,

and the accommodation provided for a carcase butcher consists of a lair, slaughter-house, and a bay in the market equal in width to his slaughter-house.

The Wholesale Slaughter-houses are 21 in number, and are 24 feet by 17 feet 6 inches inside measure, the lairs attached being 22 feet by 17 feet 6 inches. These houses and lairs are open to the roofs, which are simple in construction. The slaughter-houses are well lighted from the roofs, top lights being superior to side lights for purposes of slaughtering; the lighting of slaughter-houses requires careful attention, as the operations of killing, skinning, and dressing must be performed by a steady hand, the portions of the animal not used for human food, such as the hide and guts, might easily be spoiled by an operator not having a good light upon his work, and the commercial value of these interesting fragments of the beast would be affected thereby.

The Retail Slaughter-houses are 19 in number, and similar to the others, with the exception of the doorways, which are much wider in their opening, to enable the butcher's cart to be backed partially into the slaughter-house so as to facilitate the removal of the meat to the private sale-room or shop, where it is cut up and distributed to customers.

The Condemned Meat Department consists of a lair, slaughter-house, meat store, and boiling house. All animals pronounced unsound, diseased, or unfit for human food by the Corporation inspector, are removed to this establishment, slaughtered, and the meat boiled down to a consistency of fat or grease, which is applied to various useful purposes. Any meat also which should happen to pass through the usual operations of dressing and afterwards be condemned shares the same fate.

The Blood Department is an interesting section of this abattoir, and consists of a storing room, drawing-off room, and drying room.

The Pig Slaughtering Department is adjacent to the above, and contains a large pig slaughter-house, open yard, and piggeries.

The Entrance Lodges contain residences for the porter and Corporation inspector, and also rooms for the convenience of the markets committee. These lodges are arranged on either side of the entrance gates, through which all cattle enter the establishment.

In addition to the above accommodation, the site contains a large general lair for cattle, manure pit for the temporary storage of the manure from the live animals, and a common room for drovers and others having business in the establishment; on several points of the site are provided suitable conveniences, and also stable and gig-house for the inspector.

Next in importance to the general arrangement of an abattoir comes the question of the scientific application of mechanical aids to the various processes associated with slaughtering, and, with your permission, I will describe briefly the problem I proposed to the engineer, and then explain the method adopted in its solution. I had not given this question of abattoir machinery much consideration before it became evident that the success of the whole establishment depended in a great measure on its proper and efficient application. In the first place, it was necessary to take into account the low order of intelligence possessed by the men who would have to use the machinery (this remark applies only to the slaughterers and not to the master butchers); from what I had seen of these men I concluded that the machinery must be of the simplest form, so as to involve no brain exercise or any mental effort whatever. In the second place, it seemed desirable to reduce manual labour to the minimum; and lastly, it appeared to me to be a *sine qua non* that meat intended for human food should receive as little handling as possible after being dressed, and on no account should it be transferred from the pendant position to the dirty and greasy backs and shoulders of the slaughterers.

These being the main points constituting the desiderata of the question, it fell to the lot of Mr. John Meiklejohn, of Dalkeith, to devise a plan by which their realisation might be achieved. The apparatus and the *modus operandi* are of the simplest nature, and, as the result has proved, highly successful, and worked with perfect ease and the utmost celerity.

All I desired as part of my abattoir scheme has been realised. To sum up the advantages gained by the machinery and appliances—a considerable amount of manual labour is saved; after the dead carcase once gets on the hoist, it never leaves the hanging apparatus overhead till the moment it drops into the cart which removes it from the establishment; also from whatever part of the market a carcase is purchased, this machinery enables the seller to detach it from the others and deposit it in the cart of the buyer without in any way disturbing the other carcasses hanging on the beam; and, lastly, the handling of meat is reduced to a minimum, a fact which I think of great importance, and in all future abattoirs, constructed on scientific principles, I would recommend this as a desideratum always to be sought after and secured. From experience during the last two years, I am inclined to believe that it would be a matter of considerable difficulty to devise an apparatus superior to the above in its working qualities, which entirely supersedes such plans as the central crane and semi-circular hanging beam in operation at Edinburgh, and the ingenious but impracticable hydraulic lifting power in use at the Bradford abattoir.

After entering into various details, Mr. Darbyshire mentioned that the ventilation was regulated throughout with wood louvres. The total cost of the Manchester abattoir, exclusive of street paving and retaining boundary wall next the river Medlock, had been a little over 30,000*l.*; and, the establishment having been in full working order for the last two years, it was satisfactory to be able to state that it had fully answered the expectations of those interested.

The CHAIRMAN said that Dr. Sedgwick Saunders (medical officer of health for the City of London), Mr. Rudkin (chairman of the Markets Committee), Mr. Colam (secretary of the excellent Society for the Prevention of Cruelty to Animals), Dr. Hardwicke, and Mr. Meiklejohn attended by invitation, and he hoped they would let the meeting have the benefit of their observations and experience.

Dr. SEDGWICK SAUNDERS said that during the reading of the Paper one or two points had struck him which might be worthy of a little more re-

flection. As to the height of the dado walls he was not quite sure that 5 feet would be sufficient to prevent the absorption of the gases that were given off in the slaughtering process. It was worthy of note that the fibre of the condemned meat contained about 10 per cent. of pure ammonia, and being worth 10*l.* a ton, required looking after. The bony matter also was valuable as a manure in the production of superphosphate of lime. A great merit in Mr. Darbyshire's scheme consisted in the condemned meat being destroyed on the spot as human food by means of the application of carbonic acid; it was important that this should take place on the spot, as unscrupulous butchers had been known to dispose of meat after it had been condemned. It was also a very good thing that no drains were provided in the slaughter-houses, for they were a great nuisance, and it was exceedingly advantageous to have the drains and gulleys placed outside. The complete separation of the lairs from the slaughter-houses was an essential point, as the exhalations from the cattle were liable to impregnate the dead meat; therefore the partitions should run up from the floor to the roof.

Dr. HARDWICK said we had not yet arrived at the point of abolishing the private slaughter-houses, and if pressure could be brought to bear on all local Boards with a view to such abolition, he believed great benefit would result to the community at large. The barbarous system pursued in private slaughter-houses called for exposure, and for eight years he had been endeavouring in his own district to show the evil of them. What made them even still greater nuisances was their not being subject to the same kind of inspection as public abattoirs, and animals in a diseased state might be taken off to these private houses; such places ought certainly not to be tolerated in London. By a Bill that was smuggled through Parliament last year the Board of Works was empowered to continue these nuisances, and it was said they could be carried on under inspection; but as practical men they knew what this inspection was, and that such places could never become efficient. The subject had not received the attention that it deserved, for unfortunately the interests of the butchers were paramount. There ought to be a place provided for the hides, and also a melting-place, which should be properly conducted. He was not sure whether it was absolutely essential that the lairs should be situated near the slaughter-houses, but he thought it would be an advantage to have them detached; it would also be of benefit to the butchers if the beasts could be kept perhaps for a few days in separate places before they were killed. He was very glad that a body of gentlemen like themselves had brought the matter forward, as it deserved the attention of the public and the authorities.

Mr. RUDKIN considered that the meeting ought to be congratulated on the very able Paper which had been read, and he was glad to find that the slaughter-house and apparatus worked so well. One point he would suggest, namely whether there was quite so much economy of space as might be desired. He thought, possibly, by management more space might be got in the slaughter-house and market. As to the question of compulsory powers being given to local bodies, he had always strongly advocated the granting of such powers. He had no hesitation in saying that if we had compulsory powers in London for doing away with private slaughter-houses and establishing public abattoirs, the effect would be very beneficial. Instead of the price of meat being thereby increased, he was persuaded that it would be very materially reduced, for the cost of driving the beasts through the streets would alone pay the rent of the slaughter-houses. It was also an ascertained fact that an animal sent from Edinburgh to be slaughtered in London would lose three stone in weight, which meant a loss of a sovereign to the community. In consequence of that the quantity of dead meat sent to London was steadily increasing, the cattle being now slaughtered in the country to a much greater extent than formerly. One question arose as to the design of slaughter-houses. It was most important for the lairs to be absolutely distinct from the slaughter-houses, and further than that, the slaughter-houses should be kept absolutely distinct from the place where the animals were left to cool after being slaughtered. One feature omitted in the plan, but which existed at Edinburgh and Paris, was the tripery; this, he thought, was an important addition. In France it was worthy of remark that anything dirty in the butchers' shops was very seldom to be seen; but the opposite was the case in London. Here, also, the sheep's trotters were thrown away or boiled down to glue, but in France, after being thoroughly boiled and scalded, they were carried away to a distinct room, where, perhaps, a hundred women were at work scraping the wool off the feet, and the trotters being then transferred to another tank, were re-boiled, the oil produced from the process alone sufficing to pay the expense of manufacture, and it was impossible to obtain nicer or more nourishing food than was thus provided by proper manipulation. He, therefore, considered that a tripery should be provided, and also a place for the salting of the hides. With regard to the lairage of the cattle, he thought that they should be made as comfortable as the horses in a nobleman's stable, but their comfort was sometimes disgracefully neglected, and they were often slaughtered in a state of excitement after a maddening drive through the crowded streets—the general toughness of meat being thus probably accounted for. For the flooring, he believed that nothing answered better than stone-flagging, and he agreed with Dr. Saunders that there should be a separation between the slaughter-house and the lairs; but a still more important point was, not to allow the animals to remain in the slaughter-house after being slaughtered, as their carcasses ought immediately to be transferred to another apartment for the purpose of cooling. In the course of his investigation of the subject, in company with Mr. Horace Jones, they visited the establishment of a man at Liverpool who slaughtered largely for the shipping trade, and appliances were provided for the immediate removal of the animals after being slaughtered. Mr. Rudkin mentioned that the Corporation of London had decided on the construction of twenty additional public slaughter-houses, and he had no doubt they would be used when constructed; for butchers were now beginning to realise the fact that cattle lost value from being driven. He entirely agreed with Dr. Hardwicke that the system of inspection as applied to private slaughter-houses was a perfect farce, and the want of efficient inspection led to a lot of vile stuff being sold as human food.

Mr. COLAM, as representing the Society for the Prevention of Cruelty to Animals, desired to make a few observations on the question as it affected the animals—the other speakers having discussed the subject from a somewhat different point of view. One great argument against public slaughter-houses was that it was impossible to prevent cruelty being practised in them. There were no less than 1,500 of these private slaughter-houses in London, and it was impossible for them to be inspected so far as cruelty to animals was concerned; but if public slaughter-houses were erected the cruelty would be reduced to a minimum from the fact of the places being public and the necessity of employing only efficient men as slaughterers. One cause of very much cruelty arose from the employment of boys, who became hardened by finding they could do certain things in private with impunity which would not be tolerated in public slaughter-houses. Mr. Colam considered that we had by no means reached perfection in the matter of killing, for although the pole-axe in the hands of a skilful workman was probably the best weapon to employ, and the least productive of cruelty, yet it was not so when unskilfully used, and it was still a question whether some other means might not be devised. The narrow entrances to many of the slaughter-houses were most objectionable, and he knew some places where animals had to be driven to their destination down a flight of steps, which in itself was an abomination. There was also frequently very inadequate accommodation with regard to the lairs, and in this respect the French were very much in advance of us. Another thing was the cruelty exhibited towards animals in driving them through the streets, and this would be obviated if the slaughterhouses were distributed in convenient sites in the north, south, east, and west of London. Cattle often became fevered through being overdriven in the streets, and meeting with all kinds of obstacles in their progress.

Mr. HORACE JONES, in proposing a vote of thanks to Mr. Darbyshire for his excellent Paper, said that testimony had been borne to the value of his work, and he hoped that he would avail himself of every opportunity to introduce new improvements in the construction of abattoirs. He was able to testify to the benefit which the community had derived at Paris from condensing five abattoirs into one. With regard to the question of lighting, some persons held that it was not so good when diffused, and that lighting without any shifting ray was sometimes better.

Mr. JENNINGS, in seconding the motion, also advocated the introduction of public abattoirs, at least so far as London was concerned. He knew that there was a great prejudice among butchers on this subject on account, as they said, of the difficulty that would then occur in disposing of the offal, and which would lead to an increase in the price of meat; but he believed such objections were not well founded. At the same time he hoped that public abattoirs might be introduced without the necessity of exercising any compulsory powers, but if necessary such powers might afterwards be brought into operation. He believed the feeling generally prevailed that such places were particularly necessary for beasts, if not for sheep.

Professor KERR said he understood that some of the compartments were to be lighted from the roof, but he asked whether it would not be better for the compartments always to be lighted from the north.

Mr. DAWSON proposed a special vote of thanks to those gentlemen who had been kind enough to attend and give the meeting the benefit of their experience, for he was sure that architects might derive much profit from the advice on certain subjects of non-professional men.

Mr. FOWLER seconded the motion, which was duly carried.

Mr. ROBERTS said that he differed from Mr. Rudkin as to the stone flag pavement being the best that could be devised, for he believed that it had signally failed. He also considered that Bermondsey would offer a much more convenient site for slaughterhouses than Copenhagen Fields, as the hides of the beasts would then be more available for the fellmongers. What, he asked, could be the use of fixing a slaughter-house in a neighbourhood where there was no trade connected with it? He thought, however, that the establishment of slaughter-houses in or near cities was the greatest possible mistake.

Mr. DARBYSHIRE acknowledged the vote and the kindness with which his Paper had been received. He said that the Manchester butchers seemed to lay great stress on having the cattle located close to the scene of slaughter, and they were tied up in a large general lair; but when the door was fastened there was no communication between the lairs and the slaughter-houses. It might be only a fancy, but he had a great objection to the live animals knowing what was going on close at hand. With regard to the flooring, he would like to do away with the Yorkshire flags and have a jointless floor.

The meeting then adjourned, and Mr. Meiklejohn afterwards explained the details of his invention, of which an interesting model was exhibited.

At the next meeting, on the 15th inst., a Paper will be read by Mr. J. T. Wood on the "Temple of Diana at Ephesus."

Forthcoming Contracts.

Tenders will be delivered on Tuesday next, the 9th inst., for a warehouse in Queen Victoria Street, for the new Civil Service Company. Mr. J. Wimble, architect.

Tenders are immediately required for extensive works in Duke Street, Exeter Street, Lisson Grove, for Messrs. Spencer, Turner & Boldero. Mr. Parker, of Parliament Street, architect.

Estimates are preparing for a large gun-carriage store at the Government Establishment at Chatham.

Tenders are required for the finishings of five houses on the Holborn Viaduct. Mr. E. N. Clifton, architect.

Tenders will be delivered on the 18th inst. for a new military brigade depot at Uxbridge.

THE LEICESTER MUNICIPAL BUILDINGS.

AT a special meeting of the Leicester Town Council last week the following report from the Municipal Buildings Committee was read:—

The Municipal Buildings Committee have to report that during the recent long and severe frost building operations have been entirely suspended, and consequently the anticipations of your committee as well as those of the contractor have been to a considerable extent frustrated—they are, however, glad to be able to report that all damage done to the brickwork by the frost has been carefully repaired, and the works are now proceeding expeditiously, and to the entire satisfaction of your committee. Your committee have also to report that the total amount which has up to this time been paid to the architect and contractors is 9,779*l*. Your committee have to report that numerous suggestions having been made to them of the desirability of forming a room in the roof of the building available for clubs and other meetings of a like nature, they have carefully considered the proposition, and being of opinion that such a room would be a great public boon, and could be formed at a much less cost now than after the building had been completed, they directed the architect to prepare a drawing and procure an estimate for the work. Accordingly Mr. Brass has tendered to provide such a room 64 feet long by 30 feet wide, with a retiring room attached thereto, and a wider staircase from the one pair floor, at a cost of 230*l*., and your committee recommend that his tender be accepted, and this desirable additional accommodation provided. The architect being of opinion that the principal committee room should be made more ornamental, he, with the sanction of your committee, has prepared a design of the proposed improvement, which embraces panelled ceiling, stained deal wainscot paneling to the lower part of the walls, and fireplace and mantelpiece in character with the proposed alterations. Mr. Brass has given a tender for executing the improvement, as shown by drawing, for the additional sum of 148*l*., and your committee recommend that the work should be executed on the ground that the room in question is next in importance to the Council Chamber, which, as shown in the original drawings, will be an ornate and handsome room. The third and last, but by no means the least important or desirable extra recommended by your committee is in the public hall and corridors. The architect is very anxious to substitute a new and rare material known as Portland pavement, for the York stone as provided for in the present drawings and contract. The cost at which the proposed material can be procured has been considered by Mr. Brass, and he has tendered to substitute Portland pavement for York stone at an increased expenditure of 2*s*. per superficial foot. Your committee have given the matter their careful consideration, and having regard to the improved light the flooring would afford in the corridors, and the appropriate character of the material, which is of a most enduring nature, your committee recommend that the public hall and the corridors on the ground-floor should be laid with this Portland pavement instead of York stone, the total additional cost of which will be about 313*l*.

The different recommendations of the committee were adopted by the Council.

EDINBURGH UNIVERSITY EXTENSION.

THE acting committee charged with carrying out the scheme for extending the Edinburgh University buildings, after considering the reports of the various sub-committees who were appointed to consider the details of the designs submitted by Messrs. Peddie & Kinnear, Messrs. Cousin & Lessells, Messrs. Wardrop & Reid, and Mr. Robert Anderson, have resolved—

(1.) That all the plans and designs sent in by the architects severally exhibit great merit, and that the care and ability which have been bestowed upon them deserve the best thanks of the committee.

(2.) That Mr. Robert Anderson be employed as architect for the new buildings of the University.

The procedure adopted by the committee is worthy of imitation by the promoters of other competitions. The plans were restricted to the scale of $\frac{1}{4}$ inch to 10 feet, or 1-16 inch to a foot, so as not to impose too much expense on the competitors, and to prevent too great a display of draughtsmanship. The plans of the unsuccessful architects were promptly returned immediately after the decision, accompanied with a fee of 100 guineas in each case, although it was understood throughout that in consequence of the prescribed character of the drawings, no fees were to be expected. When we hear so many complaints of the conduct of competition committees, it is a pleasure to have to record such a case as this.

According to the *Scotsman* the main frontage, towards Teviot Row, in Mr. Anderson's design, presents a central elevation, pierced by the principal entrance; two side wings, set back some two or three feet; and two end blocks, which, like the centre part, project to some extent in front of the wings. In addition to the basement, the central block has three full storeys, the uppermost of which is to be appropriated as spare accommodation for occasional lectureships, and the remainder of the frontage two storeys. The style adopted is the Cinquecento, a phase of Italian, which, like the Gothic, readily adapted itself to internal arrangements, and in that respect differed from the later Palladian, in which certain rigid rules of external proportion had to be observed. Windows varied in design, according to the nature of the apartments they light, with the due string courses and a bold cornice a-top, form the leading features of a façade whose general effect is that of refined and dignified simplicity. On the Meadow Walk front the same features are repeated in slightly varied combinations; and here the architect has reaped the reward of adherence to sound principle in securing picturesqueness while he was in search of utility. In laying out his ground-plan, Mr. Anderson found that he could not satisfactorily arrange his multifarious rooms with reference to a continuous façade on this side. But, nothing daunted, he first settled the practical question, and then found that with his plastic Cinquecento he was able to design a frontage in which several bold salient angles, varied by a large semi-circular bay, afford a most effective perspective. In the internal court the museum front

on the south side, and the college hall on the north-east, afford telling features, and the hall, with its rounded outline and projecting staircase-towers, also comes in to good purpose in the general view from Park Place. From whatever point the buildings as a whole are looked at a conspicuous object will be the campanile, which rises from the north-west corner of the great hall to the height of 230 feet. Designed after the best Early North Italian examples, the tower will serve, together with two architecturally-treated ventilating shafts, effectively to diversify the sky line; while in addition to its use as a belfry it will be turned to account in connection with the ventilation of the hall, and in the creation of hydraulic power for working lifts and opening or closing window shutters in various parts of the buildings.

THE ECCLESIASTICAL DILAPIDATIONS ACT.

A "COUNTRY PARSON" relates in the columns of a contemporary the following curious instance of the working of this Act:—"A year and a half ago I was presented to a benefice, and found the dilapidations—chiefly for some ruinous farm buildings—assessed at upwards of 200*l*. I inspected the buildings myself, and got the opinion of an architect. They were pronounced to be not worth repairing. The estate to which they are attached is a Bounty Estate. I therefore applied to the Bounty Office for permission to sell the estate and to get rid of the difficulty. Down came a printed document containing the rules and regulations of the office, one of which was to the effect that before they could give consent to the sale the buildings must first be put in a proper state of repair. I explained that it was to avoid repairing worthless buildings that I asked permission to sell. The law of the Medes and Persians could not be altered—red tape stood in the way. So I asked the office if they could grant me a loan of money, wherewith to rebuild the houses. They could do that: another printed document, containing restrictions enough to frighten one from the attempt, especially as there was a threat that if the directions were infringed in any way whatever, the grant would be refused after the buildings had been surveyed. Being in a fix, I resolved to run the risk. I had first to obtain the consent of the bishop. The bishop, being a sensible man, and a good man of business, promptly refused his consent to the loan, which would have the effect of reducing the value of the living—only a small one—by about 50*l*. a year for the next twenty years or so. I reported this to the Bounty Office, and asked them to reconsider the question. They compelled me, first of all, to have the estate surveyed, to have a map of it made, and a report as to the advisability of selling. The surveyor (approved by the bishop) sends map, &c., and reports that it is advisable to sell. The diocesan surveyor also reports that the buildings are not worth repairing. Then I am requested to get the bishop to appoint six commissioners—three clergymen and three laymen living in the neighbourhood—to go and survey and report. They report in favour of a sale. Then the office send down instructions to me to offer it for sale by private contract, and as the estate is in another county, I appoint an agent to advertise for tenders. He does so, and I expect to receive them any day. In the meantime the Bounty Office writes to say that they forbid the sale altogether. So I am just where I was a year and a half ago, and a pretty fix I am in. It is useless to repair—I cannot build—I am not allowed to sell. I have written to the office to say that I surrender to red tape and resign the living. It would be a burning shame not to do all one can to warn others from the risk of accepting any small living that may be hampered with a lot of shaky old buildings. A poor curate, with no private means, might easily ruin himself and his family after him, if he was tempted to accept such a benefice. I may add that after putting me to a great deal of needless expense for survey, map, and reports, the Bounty Office give no reason whatever for the decision they have so suddenly come to.

THE INSTITUTION OF CIVIL ENGINEERS.

THE tenth ordinary meeting of this Society was held on Tuesday, Mr. Thomas E. Harrison, President, in the chair.

The Paper read was "On the Origin of the Chesil Bank, and on the Relation of the existing Beaches to Past Geological Changes, independent of the present Coast Action," by Professor Joseph Prestwich, F.R.S., Assoc. Inst., C.E. This remarkable bank of pebbles, extending from Portland to Abbotsbury, a distance of nearly 11 miles, had been described with great accuracy by Sir John Coode, M. Inst., C.E., in 1858. The conclusion then arrived at was that the only source from which the shingle of the Chesil Bank could have been derived was between Lyme Regis and Budleigh, and that it was propelled eastward along the coast to the Chesil Bank by the action of wind-waves, due to the prevalent and heaviest seas. The objection to this view, urged at the time by the Astronomer Royal, was, that the largest shingle occurred at the Portland end of the beach, or the more distant part from which it had travelled. More recently an old "raised" beach had been discovered on the Bill of Portland, and Professor Prestwich showed that this beach contained all the materials found in the Chesil Bank, including, also, numerous chert pebbles from the Upper Greensand of the cliff between Bridport and Sidmouth, where the author considered that the action of the "Race" off Portland, and of the tidal waves during storms combined to drive the shingle of the old beach at the Bill, and of that portion of it which must be spread on the sea-bed westward of Portland on to the south end of the Chesil Bank, whence the shingle was driven northward to Abbotsbury and Burton by the action of the wind-waves having their maximum force from the S.S.W., a direction which he showed to be the mean of the prevalent wind. Professor Prestwich next discussed the questions connected with the shingle of the South Coast generally, and showed that the greater part of it was derived indirectly from beds of quarternary gravel and debris from the wreck of the "raised" beach, and partly from the strata of the chalk and other cliffs and not altogether or directly from the present cliffs.

The Paper was illustrated by sections and diagrams, showing the position and range of the raised beach along the coast of Dorset and Devonshire.

THE PROTECTION OF BUILDINGS FROM FIRE.

At the meeting of the Society of Arts on Wednesday evening (Lord Alfred Churchill being chairman) Mr. J. A. Coleman, an American civil engineer, read a Paper descriptive of an apparatus for the protection of buildings and ships from fire, and for the ventilation of ships.

He said that experience has proved that there is no such thing as an absolutely practical fire-proof building. If walls were constructed 8 feet thick, the windows and doors cannot be equally thick, and the building, if filled with combustible goods, will be destroyed, precisely as iron ore and limestone sandwiched with fuel are reduced in a smelting furnace. It makes but little difference how we construct a few exceptional buildings in a city already composed of those that will burn. Nothing can withstand fire when there is enough of it. The practical principle, therefore, of safety is to prevent a great fire by a prompt means of extinguishment. Therefore arrange buildings or ships with appliances to instantly wet them with water, and it will be impossible, humanly speaking, to destroy them by fire.

It would seem, therefore, that perpetually menaced as they are by danger of fire, permanent buildings should possess permanent appliances for their protection. The plan Mr. Coleman proposed to the Boston Board of Trade was to put iron stand-pipes upon buildings, one going to the roof and others to the separate storeys. These perforated branch-pipes were to be laid at suitable distances apart, over the roof and under the eaves, to distribute water like a rain storm over the entire top and sides of the building, in case heat and flames are attacking it from another edifice on fire. Perforated branch-pipes are also to be fixed upon the ceiling of each storey, in order to strike the top sides and floor with small jets of water. Each storey has its own stand-pipe and valve, or cock, the latter being operated from the side-walk. All the cocks are intended to be placed in an iron box, let into the wall of the building, always locked to prevent tampering with by improper persons. By this apparatus it will be seen every square foot of the exterior and interior of a building could be commanded under all circumstances by a man quickly manipulating the broken valves from the sidewalk, without the necessity for going near the danger. If there should be a sufficient head of water, the distributing apparatus described would be connected directly with the mains in the street, and its control placed in the hands of the city authorities. Should there not be a sufficient head of water, there must be steam-boilers and pumps.

It is the custom in America, which is becoming almost universal, to have steam-boilers in the basements of large buildings for the purpose of warming them and operating the lifts. Mr. Coleman's proposition was to remove the boilers from the buildings, and concentrate a sufficient number in a central location underground, and carry steam and water mains through sewers in the streets to a reasonable distance, and supply all the contiguous buildings with steam for heating and for operating the lifts, and with water for the fire apparatus already described. As we should have steam for operating the lifts in the summer, and for warming as well at all other seasons of the year, we should have our men and fire apparatus ready for instant action at all times, night and day. Again, instead of having in one hundred buildings, as at present, one hundred engineers of an inferior order of intelligence, we should have a large district warmed and protected, requiring only three first-class engineers, such as take charge of the engines of ocean steam-ships; one man to be on duty for each eight hours of the twenty-four, assisted by the necessary complement of common firemen.

On the discovery of a fire, a telegraphic signal would summon the chief engineer on duty to take charge of the fire. If the fire was beyond the small means of extinguishment usually employed, such as buckets, extinguishers, &c., he could first turn steam into the room on fire, if it was sufficiently confined and small, and smother the flames, with but little damage to the contents of the building; but if too late for that, he would have the last sure resort of water, with which he would give the fire a short quick drench, and then close the valve. There need be no panic nor confusion. Controlling the apparatus with the same ease and certainty with which an engineer down in the bowels of a huge ship controls the movements of her ponderous machinery, it would be the man, and not the fire, that was master of the situation.

It will be apparent that if every square inch of a room was instantly wet, the fire would be sure to be extinguished, and with the smallest possible quantity of water. The prompt closing of the cock when the work was done, would save the flooding of the storeys below, which is now a great fault of our present method. But the main idea in this plan consists in having it upon a large scale, for the advantages of economy, system, and safety. It would not be sufficient to thus fit only a few buildings isolated from each other in a closely-packed district. In order to prevent a bulwark to arrest a large conflagration sweeping towards it, the plan should be general in the district protected by this system.

The concentration of boilers under skilled management, instead of their separation in different buildings, presents important advantages in point of economy as well as safety. The first cost of the plant, including boilers, subways, and mains, were found to be only two-thirds of what it now costs individuals to fit up boilers, fire-rooms, and coal-bunkers in their own premises, to include, say, 100 buildings. The advantages of making steam at wholesale are similar to all other wholesale operations; as, for instance, the manufacture of gas. To make gas in every building would be a very costly operation, but under systematic organisation, and distributed as he proposed to distribute steam, its manufacture is a source of handsome profit.

In the brief discussion that followed the lecturer was complimented on the ingenuity of his plans, but some doubts were expressed as to their being so applicable to European as they were to American buildings, also as to whether their expense would not be an obstacle to their introduction.

THE WESTMINSTER WALL PAINTINGS.

WE take the following comprehensive article from the *Times*:—The recent revival of the discussion as to the condition of the wall paintings in the Palace of Westminster and the means adopted for the restoration and preservation of these important works of modern art appears to have contributed little that can be relied on as safe and satisfactory. The one consolation that is derived from viewing the pictures after the various processes of restoration adopted is, that Maclise's grand work commemorative of the Victory of Waterloo in the Royal Gallery—*The Meeting of Wellington and Blücher*—has been successfully restored, while his other noble picture on the opposite wall, painted about ten years, remains perfect, without a sign of deterioration and without the need of any repairing. It was not so with the *Waterloo*, which, from the time the master began his work upon the outline traced on the wall, now nearly fifteen years ago, had continued to grow dull and filmy on the surface, although substantially the colours stood well, and there was no peeling off in flakes or absolute rottenness of the surface such as is seen in several of the other frescoes in the Palace. It would be too much to say that the picture is clear and unclouded now, but it is probably not far from what it was when Maclise finished it, and it may be said to be in as fair condition as most work of the kind is found to be. At any point of view from which these large decorative pictures should be viewed to gain their intended effect, it is effectively seen. But if we desire to examine a button to see what regiment a man belongs to, then there may be observed a certain grayness of the surface in the darker parts which is not noticeable from a distance, and which is perhaps favourable to the general impression conveyed to the spectator from the centre of the room. It will be with universal satisfaction that these two fine pictures can now be pronounced in good and substantial condition. Further, it may be said also, from the success of the very simple and innocuous process devised and so skilfully carried out by Mr. Richmond, R.A., who has devoted himself with such artistic feeling and love to the task, that should this film appear again upon the *Waterloo* or commence upon the *Nelson* fresco, it can be removed with the same perfect result. Now, as there is no secret about this process, we may explain that it consists in a mere careful removing of the whitish film or efflorescence by such simple mechanical means as dabbing with dry leather pads and silk handkerchiefs, and occasionally, we believe, with dry brushes.

So far, then, as regards these two most important pictures, which, with Mr. Herbert's beautiful work of *The Delivery of the Law*, on the end wall of the Peers' Robing Room, finished in 1864, are executed in the water-glass method of modern German fresco work, any loss of clearness that might occur is shown to be remediable by the very simple means we have described.

Now this is no more a decay of the picture than the chilling of the varnish, or other dullness, which not unfrequently affects oil-paintings hung in galleries ever so well protected from injurious agencies. We find, for example, that if the darker parts of the picture are breathed upon the colour returns to that spot for the moment. So long, then, as the ground of the picture remains sound, there must be, we imagine, hope of effectual restoration, always remembering that fresco in its very nature differs from oil painting as a style of decoration, in possessing none of that quality which the Italians call "luce di dentro," or, as we might say "luminous depth." No one was more conscious of this difference in the capabilities of the two methods than Maclise himself, whose report to the Fine Arts Commission in 1859 after he had been to Munich and Berlin to study the practice of the new water-glass or stereochrome method, is, after all, about the most valuable contribution we have upon the subject. That he made himself completely master of the technical part is abundantly proved by his later work of the *Nelson* fresco, however necessarily tentative he may have been in his first application of a practice which is evidently always more empirical than exact. The present fine condition of the *Nelson* fresco fully warrants the belief that it will stand as long as the wall lasts, though it must be admitted that ten years is not much in the life of a fresco, the span of which, judging from those of the antique and of the Renaissance which exist in Italy, should be, at least, 2,000 years. But we know only the veterans that have survived, and among these are some sad cripples, as the frescoes on the walls of the Campo Santo at Pisa, which are only kept together by large iron clamps inserted in the face of the picture. There must have been many that "effloresced" and faded and scaled off even in the reputed favourable climate of Italy, but these were those which had radically bad constitutions—they bore within them the seeds of disease, as the doctors say. Every-day experience shows us how one oil picture on canvas will crack and peel off the ground on which it is painted, while another, by the same hand, and, presumably, in the same method, so far as the pigment and vehicle are concerned, will stand solid and close in the surface. A painting in oil on panel or copper will generally retain its integrity perfectly, as we see in nearly all the works of the Dutch School, and in many more recent panel pictures. Therefore, we may argue that the "grounds," or bones, of pictures are of the most vital importance, whether they are made of the mortar—sand and lime—used for walls in proportions often not very accurately measured, or the paste, made of whiting, white lead, or white oxide of zinc, mixed with size or oil. We know that the old masters prepared their own walls, panels and canvases; we have changed all that, and accept in happy ignorance what is provided for us by the manufacturer. Maclise appears to have been careful about the ground of his pictures. He says in his report:—

"The latest experiment I have made in stereochromy has proved the most successful. The picture is painted on a tablet formed of laths, covered with three coatings of mortar; the two under coatings of lime and river sand consisted of one part lime to three of sand; the 'intonaco,' 1-10th of an inch in thickness, of one part lime to three of fine silicious sand; such as is used by the artists in the New Palace at Westminster. This upper stratum has been hand-floated—i.e., spread on—somewhat roughly. My object being to make this surface and the whole composition of the tablet to resemble as closely as possible the large panel in the Royal

Gallery, so that it might fairly serve in regard to the process I shall have to adopt there, before I commenced painting on it I wetted it over with a solution of lime-water, and while it was still wet I began the figure, finishing as I progressed, and in half an hour, the ground having become dry, I could see the effect of the picture I had completed. I then wetted an adjoining piece, and so on to the end. In the mode of working I found I could freely, carelessly use a stiff hog-hair brush to re-wet what I had painted without risk of displacing the colour or in any degree injuring what I had finished. In one spot I wished to restore the ground after I had coloured it, and it was with some difficulty, and only by frequent and forcible use of a stiff brush and a sponge that I could remove the colour. When quite dry next day, a solution of water-glass was formed of two parts water and one of the concentrated liquor imported from Berlin, and this solution having been twice applied, the painting is now perfectly fixed. In this case the water-glass for fixing the picture had been freely passed over it with a large flat water-colour brush, this specimen having been thinly painted, water freely used, and the ground rendered very absorbent. I note these three conditions to be principal among the causes of the success of the experiment."

In a note added, he says:—

"After the practice of stereochromic painting of a year and a half I do not find that the hardened surface of the plaster wall prevents either the colours from being sucked instantly dry or the water-glass from being imbibed, even where the wall is smoothest. The wall in question (that of the *Wellington and Blucher* fresco) has been, unfortunately, prepared carelessly, and exhibits every variety of bad plastering. Discoloration is here and there very apparent over the whole surface of the wall, arising from unequal distribution of sand with the lime."

This remark of the painter points very clearly to the importance of the plaster-work, and it shows that he was not satisfied with it in this case. It must surely be evident that a wall intended for fresco should be rigorously tested for some time before the *intonaco* is laid on, and this last coat should undoubtedly be prepared with pure distilled water.

Mr. MacIise quotes a letter from Herr Dietz, of the Berlin Museum (1869), in reference to the quality of the lime to be used:—"The proportions which we commonly adopt in forming a cement are one part of lime to two or three of sand, according as the lime is more or less rich. Everything depends on the quality of this last material, which differs much according to the geological conformation of the quarries whence it is procured." The whole of the decoration of the new Museum of Berlin was painted in the water-glass fresco, and hence application was made by Sir C. L. Eastlake, then the Secretary of the Commission, for answers to certain queries in reference to the conduct of the process suggested by MacIise and himself. Professor Pettenkofer, of Munich, was also consulted, so that every possible information and instruction was obtained before MacIise began his actual work, every detail of which is recorded. Whatever was the fitness of the wall destined to receive MacIise's work, there can be little question as to his competence in the practice, derived as it was from many careful experiments. He adopted the fine syringe for spreading the water-glass solution like a gentle shower over his picture; and we find him specially noting that too much of the water-glass must not be used upon the picture, lest it should produce a glazed and shining surface, or still worse, make the colours run into drops and streaks. It is not to be conjectured, then, that MacIise employed the fixing liquid to excess, and this, therefore, cannot be regarded as the source of the film.

But now comes the question as to what is the chemical composition of this exudation. Here we have the advantage of an analysis made by Dr. Percy, F.R.S., of the School of Mines. In the museum of that establishment there has been hanging on the walls for many years a small stereochrome or water-glass painting by Herr Echter, an experienced artist in this method, who painted in the Berlin Museum, executed in 1863, as the date on it proves. The surface of this acquired a similar "bloom" or efflorescence to that in the Westminster fresco, of which a small portion was scraped off and analysed. This was found to be neutral to test-paper, and gave no trace of efflorescence when treated with acid. It was partly soluble in water, and the soluble part consisted of lime, soda, oxide of iron, sulphuric acid, and trace of chlorine. The insoluble residue consisted of flat particles of colour, soot, and hair-like filaments. Of scrapings of efflorescence from MacIise's picture in the Royal Gallery, the weight of which was 0.10 of a grain, 0.03 was soluble in warm distilled water. The soluble part consisted of lime, soda, sulphuric acid and a trace of chlorine. It was free from carbonates. The portion insoluble in water consisted of particles of sand, soot, hair, oxide of iron, and silica. The insoluble residue on ignition gave off the odour of animal matter. When decomposed by hydrochloric acid some flocculent silica separated. Now, how much of this matter is efflorescence, or derived from the wall and the picture? How much is due to external sources, entirely foreign to the wall and the picture? We come nearer to the solution of this question by referring to an analysis of the dust collected on the inner walls of another building—the British Museum—which has also come under the scrutiny of Dr. Percy, with the following rather startling result:—

Analysis of Dust from the Walls of the British Museum.

Peroxide of iron (iron rust)	6.41	Chlorine	0.55
Silica (soluble)	0.30	Oxide of lead	traces of
Lime	8.80	Soda	traces of
Alumina	2.80	Insoluble residue (sand)	37.75
Magnesia	0.85	Organic matters	34.62
Carbonic acid	2.24		
Sulphuric acid	5.98		99.50

The proximate analysis showed the composition of this deposit to contain the above elements in the form of carbonates, sulphates, and ammoniacal salts, with soot, lint, and bristles. The relation between these analyses is too obvious to be mistaken; there are, in fact, the same agents at work in each, and, unfortunately, these are as inimical to the health of man as they are to the preservation of pictures, and especially to fresco

paintings, the surface of which is as highly porous and absorbent as the skin and lungs. MacIise expressly notices the irregularity of surface in the old frescoes which he particularly examined in Italy, as objectionable on account of the lodgement offered by the various joinings and the differing planes in the work for dust, which he knew if it once penetrated it could not be extracted without injury. Michael Angelo long before was quite alive to this, and endeavoured to obviate it in the case of his greatest work—*The Last Judgment*, on the wall of the Sistine Chapel—by setting out the upper part of the wall as much as two feet from the perpendicular. But the dust of Rome, with wood fires and little gas, could never equal as a destructive agency the awful compound forming the atmosphere of a large London interior on a foggy day by the river. Even plate-glass windows and mirrors would be eaten into and converted into ground glass if this most tenacious stuff in the air which settles upon them were not constantly rubbed off. It is quite a vulgar error to suppose that a vitreous surface is proof against these insidious agents. Ancient glass is seen to be covered with flakes, giving it the well-known beautiful iridescent appearance, and the windows of stables are often rendered opaque from similar causes. It cannot be wondered at that ordinary fresco succumbs to the disintegrating power of London air, when we see Dr. Percy's analysis of the solid constituents. But the Houses of Parliament being so greatly exposed to the river, across which not only a copious breadth of vapour is constantly supplied, but with it clouds of vaporised acid of the most destructive kind, from the potteries, the gas works, and many other sources of noxious fumes, the vast passages of the basement and the deep courts act as so many conduits and reservoirs for dust, fog, and all the noxious products of a great city, so that the splendid Gothic palace becomes virtually a colossal dust and fog trap. It was certainly not well designed for pictorial decoration, as Lord John Manners discovered when he was compelled to take such an extreme measure to obtain light for MacIise's frescoes as the knocking out of all the splendid painted windows above them, the design of no less a master in the art than Pugin himself, substituting in the place of them the present windows in grisaille, which are unquestionably indispensable to the proper effect of the mural decoration.

Dr. Percy, who may be said to have charge of the lungs of the House, as well as the atmosphere and light for the pictures, recently made the experiment of applying a strainer of white cotton wool over one of the principal air channels, on the principle of Dr. Tyndall's smoke respirator, and the result was that the wool became in a very short time nearly black, and so greasy that it could not be touched without the hand being strongly stained by it. Dr. Percy made an important report upon the effect of the London air on the frescoes in 1867, when it was proposed to obviate the contact of the atmosphere with the surface of the frescoes by covering it with a coating of paraffin dissolved in benzole. This process was sanctioned and applied, as suggested by Mr. Cope, R.A., upon the frescoes in the Queen's Robing Room by the late Mr. Dyce, R.A., and with very great success. These pictures appear now to be in a fair state of preservation, showing no signs of progressive change. Dr. Percy, in that official report, distinctly states his "conviction that all paintings, either of fresco proper or of the so-called water-glass, will of necessity be injured by exposure to the smoky atmosphere of London." "It will not be possible to remove the discolouration, though it may be removed to a certain extent by rubbing with bread." This has been tried upon several of the frescoes with more or less good results; but, of course, the cause remaining, the effect would recur again. Dr. Percy having sanctioned and advised the protection of the surface, and this meeting with the approval of the Artist Committee (Messrs. Cope, Watts, Ward, Armitage, Herbert, and Poynter) which reported upon the subject in 1871, it has been done. This Committee engaged a scientific chemist—Mr. F. Wright—to examine into the causes of the decay showing in the frescoes; and perhaps the most remarkable fact brought forward by that gentleman was, that certain fresco paintings in the loggia and colonnade of West Wycombe House, and in the church, painted by Borgini, so long ago as 1755, are absolutely uninjured, although exposed constantly to the open air and weather. Those also, painted by Burnici, at Rivaulx Abbey, in 1760, remain in perfect condition, though but imperfectly protected. The artists very justly claimed that the English climate is not an obstacle to the employment of fresco painting, and they decidedly recommended it as desirable when a strictly mural treatment was to be adopted. Mr. Herbert, however, made an important reservation in giving his signature to the report, stating that his conviction was, from his experience, that a *proper* system of silicious painting is far superior to fresco and admits of as luminous effects, the obtaining of which depends more on the artist than on the material. Secondly, he entirely objected to the coating of frescoes with paraffin. This may or may not be a durable restoration; but we believe the chemists have faith in the unchangeable transparency of paraffin. If this be so it is difficult to reconcile the favourable report upon paraffin coating with the glazing over with plate-glass, which is now completed on the frescoes in the Peers' and Commons' corridors. If the paraffin process is effective and trustworthy as it appears to be in the case of the Dyce frescoes why use glass? These pictures have evidently been most of them touched up with distemper colour and are now under glass. Thus, what it was once said in jest would have to be done, has actually come to pass, and we are committed to the absurdity in art of adopting fresco as the most eligible style of mural decoration and then controverting all its essential qualities of surface and luminosity. For all purposes of mural decoration the mouldy pictures were better, for what there was of the picture could be seen without any extraneous matter but the patches of decay. As they are now, we have the curious spectacle of so many inverted Gothic windows reflected in the glass, varied with the figures of the passers by and our own features, while at night the gaslight chandeliers enhance the beauties of the picture. The frescoes in the Poet's Hall seem, most of them, to be in such a state of hopeless decay that they are left to their fate, and Mr. Wright points to some of those to prove what he maintains as to the treacherous nature of yellow ochre. At least one half the mischief, he says, is due to the use of this colour. Not only does it lack permanence itself, but it destroys the stability of other pigments

with which it is associated. He considers the colour is very imperfectly prepared and very varied in its chemical constitution, and that it is now a different colour from the ancient ochre so much in favour. He advises yellow ochre should be banished from the fresco painter's palette. Terra verte mixed with limewhite, as a ground, Mr. Wright pronounces equally fallacious and fatal to permanency. It has a tendency to set too quickly, and thus forms a flake which separates from the ground or *intonaco*. The use of limewhite is also subject to considerable chances of failure from the varying causticity of lime, and its great liability to lose this quality by absorption of moisture and carbonic acid. These are all points in the practice of fresco painting which are not generally known even to those artists who have attempted it, and they place in strong light the necessity for the most scrupulous care in the execution of works of such importance as these frescoes in the Houses of Parliament. There is great room for doubt as to the soundness of the method employed in preparing the walls and grounds, which have hitherto been left too much to the "rule of thumb" followed by the simple plasterer. Chemical science points out the sources of decay not only in these materials, but in the actual colours as well as in the method of the painter in his work. As yet the modern fresco painter has not learnt all the secrets of his palette, nor acquired all the skill of hand demanded for success. But notwithstanding that the waterglass method of fixing a painting done in pure water colours without any sort of viscid vehicle, invented by Dr. Fuchs, of Munich, has been attended with a certain proportion of failure, which has led to a suspension of the practice by the German artists and our own painters, yet its advantages are immense, and we have the emphatic opinions in its favour of fresco painters of great experience, as Maclise and Mr. Herbert. It was a pity to abandon the scheme of painting such a magnificent apartment as the Royal Gallery by so capable a painter as Maclise, and it is still more to be regretted now that we see his first great work freed from those mere passing clouds, whatever they were, whether London atmospheric deposits or defects in his materials, while his last work stands without a blemish.

WHITWORTH EXHIBITIONS.

SIR JOSEPH WHITWORTH, of Manchester, to whom the country is already indebted for the founding of the scholarships which are associated with his name, has, by a new act of munificence, instituted a number of exhibitions, by means of which students who might not otherwise be eligible will be able to take advantage of the competitions for the scholarships.

In order to encourage young men having a mechanical instinct, and who are already possessed of some degree of manual dexterity in the use of tools, he proposes to found, in connection with Owens College, Manchester, King's College, London, and University College, London, a certain number of exhibitions, in order to fit them better to become candidates for the Whitworth Scholarships.

The competition for these exhibitions will be as follows:—

1. Candidates must not be less than 16 nor more than 18 years of age at the date of the examination.
2. They will be required to produce a satisfactory testimonial of character, and to pass a preliminary qualifying examination in English dictation and composition, arithmetic as far as decimals, and the elements of mechanical drawing, at the commencement of the academical year of each college.
3. Having passed the qualifying examinations, candidates will be required to undergo a practical examination in the use of tools, to be held at each college, or elsewhere.

This examination will include at least two of the following handicrafts:—Filing and fitting, turning, smiths' work, pattern work, pattern making, and moulding.

4. The selection of candidates will be determined by the number of marks gained in the examinations.
5. Successful competitors for the exhibitions will be entitled to receive, during the two years next following the examination, instruction in all such subjects (being part of the course of each college) as shall better prepare them for the Whitworth Scholarship Examination, viz.: Practical, plane, and solid geometry, machine drawing, mathematics, theoretical mechanics, applied mechanics, and freehand drawing.

Provided always that the right to enjoy the exhibition for the second year shall be contingent on the exhibitor's success in the college examinations held at the end of the first year.

Sir Joseph Whitworth will pay each college annually for four years, as a trial of the success of his proposal, the sum of 100*l.*, for or towards, at the option of each college, the academical expenses of the exhibitors.

ARCHÆOLOGICAL DISCOVERY IN FRANCE.

AN interesting archeological discovery has just been made at the watering-place of Bourbonne-les-Bains, in the Department of the Haute-Marne. In cleansing the reservoir of the thermal waters, over 4,000 bronze coins or medals and a few gold coins have been extracted from the mire. The gold coins have the diameter of an English florin, and bear the effigies of Nero, Honorius, Hadrian, and Faustina Senior. Those which are marked with the effigy of Honorius have on one side a head crowned with laurel, and the words—here are the exact letters in Roman lettering—"DNHONORI. VSPAVO," and on the other side a warrior leaning on a trident and placing his left foot on a vanquished enemy, with the following inscription—"VICTORI. MAVGVC. HONOR." On the coins bearing the effigy of Faustina is on one side a woman's head, with the words "FAVSTINA. AVG. FIL." and other letters which cannot be read, and on the other side a bird on a tree with the word "CONCORDIA." These different coins are supposed to have been placed there as *ex voto* offerings presented by the sick, who wished to

propitiate the Divinity or to thank it for success obtained from the thermal treatment which they had been undergoing. Besides these medals, a considerable number of bronze pins and rings were found. One of the rings represents the fore feet of a horse, others the head of a dragon or serpent; also several small bronze statues, representing warriors and wrestlers. These statuettes are exquisitely worked and admirably modelled. There are, finally, several stone pillars bearing inscriptions. The following inscription on one of these last is not without interest. Here is this inscription, or what can be read of it:—"BORVONI ET DAMONAE. XTILIA EXTI. FIL. AED." Borvo, whence Bourbonne derived its name, was one of the numerous names of Apollo. It is supposed also that Sextus, father of Sextilia, was Sextus Empiricus, the famous medical man, who lived about the year 140, under the reign of Antoninus Pius, the adopted son and successor of Hadrian.



Durham County Court.—Rule v. Bell, Architects' Commission.

SIR,—In your report of the above case, in last week's *Architect*, you have it that I said 3*l.* was a "long" charge for making out the plan produced.

By referring to the enclosed extract from the *Durham Chronicle*, you will see that what I really said was—"that 3*l.* was a very low charge for the work done by the plaintiff."

By inserting this, or otherwise making the correction in your next issue, you will oblige

Your obedient servant,

3 Silver Street, Durham, Feb. 2, 1875.

WILLIAM FOX.

General

An International Exhibition will be opened in the Albert Hall about Easter next, by arrangement with the Council. It will be organised by Mr. J. H. Gammon, formerly connected with the Belgian department of the annual International Exhibitions.

A School of Art is to be established at Hastings, and a committee has been formed to undertake the necessary arrangements.

Sir John Hawkshaw, F.R.S., President-elect of the British Association, has been proposed as a member of the Royal Society of Edinburgh.

Lord Elcho will give notice of his intention to ask for leave to introduce a Bill for the Improvement of the Municipal Government of London on Monday next.

The Queen Dowager of Bavaria has ordered the construction, at her own expense, of a new Catholic church at Munich, which will cost 17,000*l.*

A Memorial to M. Van de Weyer, for which 70,000*fr.* has been contributed in all parts of Belgium, is to be erected at Louvain, and native artists have been invited to forward designs.

A Memorial is in course of signature in Scarborough inviting the Midland Railway Company to construct a line to that town.

A Portrait of the Right Hon. J. G. Dodson, M.P., by Sir Francis Grant, P.R.A., has been presented to Mrs. Dodson. It was subscribed for by the electors of East Sussex.

A Report of the City Lands Committee, submitting a model for the construction of a new council chamber, at the estimated cost of about 50,000*l.*, exclusive of fittings, and a plan for the rearrangement and reconstruction of the committee rooms and offices on the north side of Guildhall, at the estimated cost of about 56,000*l.*, has been adopted by the Court of Common Council.

The Paddington Vestry, by their new system of supplying the public lamps by meter, have effected a saving of 400*l.* in the three winter months during which the system has been in operation.

The Metropolitan Railway Extension from Moorgate Street to the Liverpool Street Station of the Great Eastern line was on Monday opened for traffic.

The Government have, it is understood, decided to introduce a Bill in the coming session for the Erection of Artisans' Dwellings in Towns.

The Designs of Messrs. Barker & Ellis, of Manchester, have been adopted for the proposed Free Branch Library at Cheetham.

The Designs of Messrs. Habershon and Brock, of London, have been selected for the new church at Heatheragill. Sixteen sets of plans were offered for competition.

The Town Council of Leeds have adopted a motion in favour of extending the Kirkgate Market, at an expense of 40,000*l.*

Contracts have been entered into for a complete system of drainage at Longton, extending over a distance of eighteen miles. The amount of the tender is 27,900*l.*

The plans of the county buildings, Kirkwall, embodying alterations proposed by the Home Secretary, have been forwarded for approval, and the sanction of Government to the commencement of the work is expected shortly.

A French Farmer has, it is said, recently discovered that by heating glass, and then cooling it in oil, its fragility is lessened in an extraordinary degree.

The Architect.

THE ROYAL GOLD MEDAL.



R. EDMUND SHARPE is in all probability to be the honoured recipient of HER MAJESTY'S medal for architectural distinction this year; and no one will grudge him the pleasure, which to him we doubt not will be great, of being so selected. At the same time it is by no means unlikely that the preference of Mr. SHARPE over certain other prominent men by the Council of the Institute will be canvassed, and that a little dissatisfaction, if not a great deal, may be expressed, although of course in private, in the contemplation of such a result at the present moment.

The singular blunder, if we may so call it, which was committed last year in offering the nomination to Mr. RUSKIN, and the still more singular rebuke which that distinguished amateur was bold enough to administer in return, have scarcely yet ceased to be a standing jest. It will be remembered that on that occasion it was, according to rule, the turn of literature, in alternation with art, to take the medal, and the turn of English literature in alternation with foreign. Accordingly, when it was found that the "Oxford Graduate" had positively and finally made up his mind to refuse the compliment, and when Mr. STREET was selected in his stead, it was pointed out that, whether the eminent architect of the Law Courts was regarded as *literateur* or as artist, he would be equally well entitled to the favour of his compere. Nevertheless it was felt to be in some measure a misfortune that Mr. STREET should even appear to take the honour as the author of a couple of standard books, when his pretensions as the powerful designer of a couple of hundred buildings were so much more relied upon by himself. If therefore the nomination this year, as is intimated to be the case, goes directly to literature, this will have at least the effect of preventing the nominee of last year from supposing that his artistic merits were then overlooked. Mr. RUSKIN received proposals of honour for the sake of the pen *par* et *simple*, and (not to put too fine a point upon it) the negotiation fell through; Mr. STREET took his place in the emergency for pen and pencil combined; Mr. SHARPE is now brought forward for the pen alone; and the next turn may be considered to belong to the pencil as a complete restoration of the balance.

Looking at the apparent determination of the Institute Council to avoid as far as possible the selection of any one who belongs to the current conditions of vital affairs, it is as easy to understand the choice of Mr. SHARPE as it was last year to comprehend the preference of Mr. RUSKIN. The authors of the "Seven Lamps" and the "Seven Periods" respectively have long ceased to belong to the living world of architectural literature; the one having many years ago betaken himself to the seclusion of a foreign home and alien pursuits as effectually as the other has shut himself up within the walls of dreamland to seek for a new philosophy. That both authors have substantial merits upon which to base their nomination to the distinction is what no one would deny, or even wish to dispute; but if any friend had told Mr. SHARPE five-and-twenty years ago that his then newly published "Parallels" and "Seven Periods" would at this distant period be receiving their reward in the bestowal of the blue ribbon of the profession from whose practice and associations he was then already retiring, he might well have been excused for suggesting that such a reward ought to be offered either long before or not at all. One thing, however, is at least clear; Mr. SHARPE will not decline the honour as Mr. RUSKIN did, but will no doubt do all that in him lies to magnify it and make it honourable.

It was as long ago as the year 1848 when Mr. SHARPE of Lancaster first found himself accepted as one of the architectural notables by reason of the publication of his "Architectural Parallels; or, the Progress of Ecclesiastical Architecture." The sound critical purpose of this book was to reduce mediæval detail—English alone, by the way—to the form of a regularly developed historical scheme; and in 1851 there followed the publication of "The Seven Periods of English Architecture," with precisely the same object in view. Throwing aside the otherwise very serviceable RICKMAN formula of "Norman, Early English, Decorated, and Perpendicular," the author of these well-executed and conscientious works professed to show that the mode as a whole was continuous, not consecutive—a single artistic style taking four centuries for a certain career of definite development, which upon close examination became discernible as a life of seven ages. The "Seven Periods," therefore, have been, if not actually accepted as law, certainly recognised as something more than ingenious exposition ever since; and although the writings of Mr. SHARPE have never been put on precisely the same shelf of historical worship as those of certain other more fashionable philosophers, they have always been regarded as pos-

sessing such merits as entitled their author to more than ordinary respect. We ought to notice, moreover, as a work of the same tendency published by Mr. SHARPE in 1849, two octavo volumes on "The Rise and Progress of Decorated Window Tracery in England;" and it may be remarked also that he read a Paper at the Institute in 1851 on "Subordinate and Distinctive Characteristics of the Mouldings of the Seven Periods."

For no less than twenty years the pen of Mr. SHARPE appears to have been idle, if we leave out of account half-a-dozen incidental pamphlets, one of which was on Branch Railways, and another on the Disfranchisement of Lancaster, while the rest took up minor subjects of Gothic architecture. But in 1871 a second edition was published of the "Seven Periods," together with a small work on "The Ornamentation of the Transitional Period of British Architecture," and a liberal reproduction of the "Parallels" in the form of "The Mouldings of the Six Periods of Gothic Architecture from the Conquest to the Reformation." The latest work of the author is "The Architecture of the Cistercians," 1874, following up an able Paper read at the Institute under the same title in 1871. The whole group, therefore, of Mr. SHARPE's literary works may be said almost exclusively to revolve around a single idea, namely, a reconstruction of the historical classification of English mediæval ecclesiastical buildings. It has often been pointed out that one such idea, if a truly sound one, is enough for the life-long efforts of an individual critic, and that even with all his persistency he may find himself at length overtaken by the weariness of age before he has succeeded in establishing as an accepted doctrine the theory which he has so long contemplated as an incontrovertible fact. We find no fault, therefore, with Mr. SHARPE for being a man of one idea; on the contrary, we esteem his perseverance all the more.

There are many of our readers, however, who will incline to the opinion that what has procured for Mr. SHARPE the distinction now in question is, after all, not his writings. He has, in a word, made himself very popular for a few years past in connection with the autumnal excursions of the young men of the Architectural Association through certain districts of England and France; and it will be in no spirit of disparagement that it may possibly be said he has done more to win approbation by those little acts of friendly energy in his age than by the elaborate, and no doubt costly, publications of his younger manhood. Indeed, if it should really be considered the fact that the very remarkable meeting recently held at Willis's Rooms in connection with the excursion in North France has of itself gained him the honour now conferred upon him, we see no very serious reason why it should not be so. Whatever may be the historical value of the "Seven Periods," there cannot be two opinions upon the admirable tact with which the retired architect and still persevering amateur had led on the youth of his old profession to substantial achievements of patient study and honest work, and the no less admirable skill with which he had personally marshalled in imposing review the striking collection of delineations which was the outcome of the transaction. Nor are we loth to admit that there would be a little appropriateness at the present moment in the principle that, after so many years of the administration of the gold medal upon such a different basis, the interests of the rising generation should for once be considered, and what may be called the choice of the adolescents accepted for their own sake.

Our readers may be presumed to be aware that it is only the initiatory step of selection which is now represented by the publication of Mr. SHARPE's name. The whole process runs thus:—The Council, by direction of the main body, selects a nominee; upon due notice of this a general meeting of the Institute approves or disapproves the selection, and so accepts the nominee of the Council or substitutes another; the choice of this meeting then goes before HER MAJESTY as a "recommendation" for her royal confirmation or other direction. The real act of election is the second step in this process; the Queen has on no occasion interfered with this; the general meeting of the Institute, however, has at least twice changed the nomination of the Council. We anticipate at present no objection to the nomination of Mr. SHARPE; and on the whole, although there are no doubt others whose claims deserve recognition at an early date, we venture to hope that even those who would prefer some one of these will upon reflection concur in the selection of a writer of such substantial merit.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GOSWELL, F.S.A.

Richard III.

THIS play takes up the history of the House of York in the summer of 1471 (the corse of HENRY VI. not yet having been interred), and finishes with the battle of Bosworth, August 22, 1485. CLARENCE was found dead in the Tower, February 18, 1478, having been committed only a month (January 16) before this. His brother, the Duke of GLOUCESTER, had quarrelled with him about the Warwick estates as far back as 1473, and very much against the wish of CLARENCE had married the Princess ANNE, WARWICK's second daughter, and sister-in-law to CLARENCE. Now, in the drama, CLARENCE is committed to the Tower, then follows the burial of the

late King and the beginning of RICHARD's courtship, and the first Act finishes with the death of CLARENCE. It is tolerably manifest that the action in this Act was only intended to cover the month which elapsed from the committal to the death of RICHARD's unfortunate brother, for these two events meet us, one at the beginning, the other at the end, of the Act. In the short interval between them HENRY VI. is buried, and RICHARD does not marry "the lady ANNE." Surely Macbeth is quite as good history as this. The second Act begins on or about April 8, and ends May 2 or 3, 1483. The third Act begins May 4, and ends June 26, 1483. In both Acts the dramatic events are unfolded in true historical sequence. The year 1483 still follows us to the end of the first Scene of the fifth Act; then comes a break of nearly two years, and the rest of the Act belongs to the latter end of August 1485. BUCKINGHAM was beheaded at Salisbury November 1, 1483, and his ghost is one of the party who disturb RICHARD on the night before the battle of Bosworth. The taking of BUCKINGHAM on the (stage) field of battle, and the line

Off with his head!—So much for Buckingham!

which is always sure to bring down a round of applause, are not SHAKESPEARE's but the invention of later times, when historical blunders were less to be excused than in ELIZABETH's reign. It is hardly necessary to add that the character of RICHARD III., as exhibited in the play, is as far from the truth as the arrangement of events in the first Act. To an unknown writer in the reign of HENRY VII., BACON, MORE and SHAKESPEARE were indebted for their colours, and they certainly were not niggardly in the use of the material so borrowed. As, however, it is no part of my programme to defend historical characters which have been vilified—a task that happily, owing to modern research, would not be very difficult—we will pass on to the consideration of the architectural scenes.

With the exception of Act 5, and the third Scene of the third Act, all the Scenes are laid in London, and more than this, every Scene in the play, with the exception of the last three of the last Act, is architectural. Taking the exceptions first, we have

Pomfret.—Before the castle (Act iii. Scene 3).

Salisbury.—An open place (Act v. Scene 1).

We have then left nineteen Scenes in London and Westminster, which may be divided as follows:—

A street	5
Courtyards or open places	5
Interior of the Palace	6
Ditto Tower	2
Ditto of Lord STANLEY's house	1

Of the streets, we may remark that one (Act i. Scene 1) must lead to the Tower from Westminster; another (Act i. Scene 2) from St. Paul's to Chertsey; another (Act iii. Scene 1) must be in a north-western direction; that which forms the third Scene of the second Act would most naturally be placed in the heart of the city; and the sixth Scene of the third Act might be the same, or it might very well come into the seventh Scene—the court of Baynard's castle. The street architecture of our English cities in the time of which I write was passing through those later phases that helped to bring about the ruin of northern art. Houses were built higher than ever, storey overhung storey until the gables were oftentimes within handshake distance; light and air were excluded in a measure we in these days can hardly realise. The growth of the population, the continued desire men still had to huddle together within the (doubtful) protection of crenellated walls, the lingering faith in city gates—even yet hanging in rags and tatters about Temple Bar—were the first weaknesses of a transition (and all transitions have their special weaknesses) which was to culminate two centuries later in every conceivable plague of which that of the body was probably the least. London of to-day is no place for us to learn of the London of the fifteenth century. To do this we must turn to cities and towns like Bristol, Chester, and Shrewsbury, and turn there soon, or their considerate and learned authorities will have so erased and interlined the page that we shall learn nothing.

The five courtyards or open places are—

1. Before Lord HASTINGS' house (Act iii. Sc. 2).
- 2 and 3. Before the Tower walls (Act iii. Sc. 5).
4. Courtyard of Baynard's Castle (Act iii. Sc. 7).
5. Before the KING's Palace (Act iv. Sc. 4).

Of Lord HASTINGS' house nothing remains, and no illustration of it exists that I have yet seen of sufficient authority to guide us.

The Tower walls and gateway would be in much the same condition as they were in when I last referred to them, except that within the walls, and rising above them, might be seen the roofs of a few more buildings, with their picturesque lines of gables framed in wood and filled in with plaster. Baynard's Castle stood in Thames Street, and one pile of the building stood on the very edge of the river. It was built by HUMPHREY, Duke of Gloucester, and had a half-and-half look about it, neither castle nor manor-house, but a look with an air

of "the seven gables" in it, solemnified here and there by a strong turret of castle-like complexion. The main building was four storeys high, and the windows were small enough to show that its builder thought more of safety than of outlook. The fourth Scene of the fourth Act—"before the Palace"—should be an outer quadrangle or court-yard of the KING's palace. The course of the action shows that RICHARD has joined his train in an inner court, from which he passes through a second or outer court wherein the two QUEENS and the Duchess of YORK have met to intercept him in his expedition. I take it that this outer palace would have some air of privacy about it, that it would be a quadrangle and not a street, or the Broad Sanctuary even, for it would be scarcely probable that queens and duchesses would sit on the ground of a public place or highway. Such a quadrangle would show an archway leading (under a low tower, perhaps) to an inner court, whence the sound of the royal trumpet is first heard. The buildings might be in one or more styles provided there was nothing later than 1483, and this gives such a wide scope to the scenic artist that to go wrong is hardly possible except of malice aforethought. Of the six scenes devoted to the interior of the palace, one is evidently intended to be distinct from the rest. A room of state must be provided for the second Scene of the fourth Act, but the third of the first and fourth, and the first, second, and fourth of the second Acts may be represented by the common hall, or any other room which, like this, would be easy of access to everyone. The stage direction makes the third Scene of the fourth Act "the same" as the second, but it is scarcely likely that RICHARD would appoint a meeting with TREBL in this room, for here, when the state business was over, the servants would be busied in taking down the dossals and hangings, or, in other words, dismantling the chamber until its upholstery was required for another ceremony.

Of the two Scenes in the Tower, one must be a hall or council chamber, the other a prison, like that I have already had occasion to notice. The room in Lord STANLEY's house must be purely conjectural. But of this, as of all other rooms, I may remark that in 1483 the latest style of Mediæval architecture, which we commonly call Perpendicular, having been practised for more than a century, men of position, fashion, or wealth had had plenty of time to reconstruct or add to their houses in the style of their age. We are happily still rich in examples of this style, and to those who cannot afford to examine them for themselves, the late Mr. PUEN's works are full of carefully-measured drawings that will supply everything that is necessary in the shape of architectural detail. Nevertheless, in this play, as in most, the mere archæologist is not all that is wanted. There must be joined to the antiquarian knowledge more or less of the architects' skill in composition or design; for although every detail of a scene may by itself be correct, it may so happen that in the aggregate the individual bits of even careful archæological research may be dominated by the absurdity of the general construction.

Ah, cut my lace asunder!
That my pent heart may have some scope to beat.

These words at once suggest to us one invention of the reign of RICHARD III., viz., the laced stomacher worn by men and women. With this exception there was very little change in costume from that described in my last article. Armour continued to be exaggerated about the shoulders, elbows, and knees, until these joint-pieces attained a kind of fan-shape, which, combined with the laminated plates, gave to a fashionably armed knight more the appearance of a double-tailed dragon than a man. RICHARD and others at Bosworth wore over their armour the tabard of arms mentioned in my last, and the KING and BUCKINGHAM were at all times finely decked. The embroidered pattern of this time was that composed of what was called "the nett and pyne apple," a decoration that seemed to have been not only a great favourite, but a very long-lived one. For the head, men used hats of estate, the rolls behind and the beaks (peaks) before; little round caps or bonnets (*bonnets*), with fur edging and a feather, something like a lady's modern pork-pie hat; and the cape with its hood. Top-boots, 9 or 10 inches higher than the knee, and very long pointed toes were commonly worn. The doublets and gowns were of satin, velvet, or cloth of gold lined with velvet, many of them being richly embroidered with personal badges or the fashionable pattern above mentioned. In the ladies' dress we note first the disappearance of the tall head-gear, and in its place we see a reasonable caul or net of gold confining the hair at the back of the head with very fine kerchief, stiffened into shape as in the preceding reign.

The dress of ANNE on the day before her coronation is described as composed of a kirtle and mantle of white cloth of gold, with trimmings of Venice gold and ermine, the mantle being "garnished with seventy annulets of silver, gilt, and gylt." The every-day gown had deep cuffs, turn-down collar, and deep hem-piece on the skirt of fur or velvet. On ordinary occasions the hair seems to have been worn loosely hanging over the shoulder, *au naturel*. It requires no wonderful wit to render such a costume eminently pleasing. May I be so bold to commend it indirectly through my readers to their fair friends, and directly too if perchance this journal is fortunate enough to possess any ladies among its supporters.

THE CITY LIBERAL CLUB COMPETITION.

THE new Liberal Club which has been lately formed in the City of London, and which promises to be an important and powerful organisation, is about to erect a club-house on a site which has been secured in Walbrook. The Committee decided upon a limited competition among invited architects, and we believe agreed to pay a fee to the authors of the unsuccessful designs. The architects who have competed are Mr. CHARLES BAREY, Mr. H. H. COLLINS, Mr. T. CHATFIELD CLARKE, Mr. F. P. COCKERELL, Messrs. LOCKWOOD & MAWSON, and Mr. G. E. GRAYSON; and the six sets of drawings which were received from these gentlemen have been examined by the Committee personally, and, so far as has transpired, without professional assistance.

As might have been expected, the prize has been keenly contested; the drawings are excellent; and the designs which they represent are most of them so good that the Committee may have felt they could not go very far astray whatever decision they came to, hence, perhaps, their determination to dispense with any professional referee. The ultimate choice has fallen upon the designs submitted by Mr. GRAYSON, of London and Liverpool, under the motto *Con Amore*, or at least has fallen upon Mr. GRAYSON, for the notice appended to the plans by the secretary states that the architect selected by the Committee is Mr. GRAYSON, the author of the design bearing that motto. This is not quite the same thing in words as selecting his design, but we imagine that no difference exists in reality, and that the appointment of the architect is a consequence of the selection of his design—a selection which it is understood was unanimous.

A club of a political nature to be built in the City of London must necessarily differ considerably from a west end club. It is intended to be largely used by men who are living under pressure during the time they are in the city. A rapid glance at the latest telegrams, a hurried chat with a friend, a hasty lunch, are the sum of the club life of only too many of those who will use the new building. The planning of the two principal floors, with special regard to convenience, was no doubt the first and the most vital consideration in the selection of a design, even to a greater extent than would be the case if a west end club were in question. The artistic merits of the designs may perhaps fairly take the second place; and though, in ordinary cases, the estimates would be the next, this is an instance in which we may conclude that expense would be a subordinate matter, nor have we any reason to doubt that a fairly adequate amount was allowed.

To succeed, however, the author of a design for a public building in a crowded city must be prepared to deal with lights both internally and externally. He must know how to light his own building, and how to avoid interference with the lights of other people, and the lighting of each design would, no doubt, require most careful scrutiny. Lastly, it appears not unreasonable that in a confessedly political club facilities for holding a general meeting of members for political objects should be forthcoming; that is to say, that one of the public rooms should be of such a size and shape as to admit of 300 or 400 gentlemen holding a conference, but in this respect the selected design is hardly so successful as several of the others would have been.

The problem was in addition saddled with a difficulty which complicates it to no small extent, and one which not infrequently presents itself. The club is to be capable of enlargement at a future day. The entire future site, if not twice as large as the part now available, is at any rate not far short of it, and architects had to produce a design which, while thoroughly fit for use in its present incomplete state, shall yet not be spoilt or over burdened by this very large future addition. So much for the problem; we may now examine briefly the way in which its solution has been contrived by the six competitors.

Experientia Docet is the motto of a design in eleven sheets of drawings. The entrance here is in the centre of the future complete building; an arrangement adhered to by a majority of the competitors. The reading and writing rooms are on the ground-floor, the dining-rooms on the first-floor, and sundry essential services are on the second-floor. The dining-room floor would have an *W* shaped plan when complete, the staircase forming the centre limb of the letter, with a serving-room right and left of it. The elevation is Italian, of VIENOLA's or SCAMOZZI's type, and very florid, and the building is very lofty. Indeed, it seems clear that if other architects have gone as near the limits of height as they can, the author of this design must have exceeded them and gone too high. If so, we cannot wonder at the design (which is more symmetrical than several, and, in addition, has many good points of planning) being passed by, for not only would the architectural effect of the exterior be lost if the top storey were stopped by an injunction of the Court of Chancery, but the club would be crippled in its arrangements.

Non quis sed quid is the motto of a design of Italian character, in twelve sheets, which is marked by one feature so decidedly prominent that the success or failure of the whole must have been to a great extent dependent upon the reception given to this one part of the plan. We allude to the dining-room, which has been placed by this architect, as by the last one, on the first-floor. In the present design,

however, the dining-room has been made as large a hall as the site could possibly accommodate, and reaches the size of 60 feet by 98 feet. This may fairly have been thought disproportionate to the dimensions of the site, and the staircase, hall, and approaches generally have been cramped and in various ways rendered imperfect by the determination to secure this very large room. The reading room and newspaper room are on the ground floor, the entrance hall is central, and the principal staircase in the rear. The architectural treatment of the front elevation is decidedly good, and great pains seem to have been taken to avoid any infringement on the line of undisturbed lighting which the premises enjoy.

Per non dormire extends to the large number of twenty-four sheets of drawings. The author of this design has departed from the principle of arrangement on which those previously noticed proceed, and has placed his entrance at the extreme side of the site. His completed plan shows a long reading-room on the ground-floor, with the dining-room on the first-floor; but we cannot say that the planning is artistic or simple. A larger number of irregular rooms and acute and obtuse angles than need have occurred are to be found, and in other ways the arrangement is defective. A far better alternative plan, with a central entrance and many well-studied arrangements, forms part of the set of plans. In this alternative plan a reading-room occurs on one hand, and a library on the other, of the entrance, and on the first-floor an L-shaped dining-room, with a card-room, are provided. The architecture of the front is of a free kind of Italian, and the exterior is shown by a fine perspective view wonderfully executed, but not made into a taking drawing. The sections contain a great deal of artistic work of a high order.

The two designs which we have now to consider are the two which, to an observer more bent on estimating the general quality of the work than on painfully ascertaining by a laborious comparison of varied advantages and disadvantages where the balance of convenience lies, appear the most striking. It may not be at first obvious that a criticism like the one we are now attempting must necessarily proceed on different principles from those which a competition committee or a professional assessor ought to follow. We cannot in the case of a complicated problem like the present attempt to indicate the whole of the points which go to make up the merits and defects of designs considered as suited for a particular purpose and a particular position. We can only examine them as designs, with such references to the chief requirements of the problem as are obviously within our scope, and even were we able to do more it would be unjust to attempt it.

As designs, then, we have to speak in terms of very high praise of those of *Civis* and *E pluribus Unum*. The author of the latter has sent sixteen sheets of most carefully executed drawings. He has in two respects differed from the majority of competitors, having preferred to enter his building at the side instead of in the centre, and having placed his dining-room on the ground-floor, and his newspaper room and private dining-room on the first-floor. His completed design contains a fine suite of reading-rooms and a library on this floor.

The kitchen, service lifts, and household appliances generally show marks of the greatest possible care, and the planning throughout is full of artistic arrangement.

The style selected is the François Premier style of French transition, which has been chosen by Mr. WHIGHCOCK for his club at Westminster; this is very elaborately and carefully worked out in the sections, and though we take exceptions to the dining-room, of which an interior perspective is shown, the general architectural treatment is very pleasing, and the amount of light secured is singularly great.

Civis contributes twenty-three sheets of drawings divided into A showing the building now proposed, and B showing it as completed. The entrance is in the centre; the dining-room is, as in the last-named design, on the ground-floor, with the strangers' dining-room—an indifferently-lighted apartment—behind it, and the library, &c., is on the first-floor. The completed plan shows a very fine and cleverly-contrived dining-room, the lighting of which is particularly ingenious, and provides on the first-floor a newspaper room, being an extension of the well-arranged library in the first part of the building. The planning here, again, is very able, and though we have expressed a doubt as to the lighting of a portion of the building, the design is, as a whole, very skilful.

The treatment is Italian, with rich but legitimate ornament designed by a practised hand, and shown by beautifully-executed drawings; indeed, nothing in the whole collection of drawings surpasses the execution of the exterior view, and of the sectional view of the library in this set of drawings.

We now have reached *Con Amore*, the successful design of Mr. GRAYSON. This set of plans consists of 13 sheets of very well executed drawings, including two large perspective views, and a capably drawn detail of the exterior elevation.

The entrance is placed in the centre. The staircase, which is a somewhat prominent feature, occupies the heart of the house. The reading and news-rooms are on the ground-floor, and the dining-rooms are on the first-floor. The planning, though painstaking, simple and practical, is by no means so refined as in one or two designs, and is shown by less finished drawings; but supposing the

Committee to have arrived at the decision that the news-rooms ought to be below and the dining-rooms above, we cannot doubt that they would feel that of *Con Amore* to be by far the most practical proposal among those of the designs which adopt this disposition. If this point (which, by the bye, is one so vital that we should have thought the Committee ought to have fixed it in their instructions) was not considered of essential importance, the task of selection must have been an easy one, for *Con Amore* is by no means free from objections, though its leading ideas are no doubt singularly sensible and practical. The dining-room is an L-shaped room with a series of very flat bay windows, which will, no doubt, add to its attractiveness when in use. The service is carried over rather long distances, but enters the room at well chosen points, and without interfering at all with the principal staircase.

The completed design shows an increased amount of dining-room space, and a library added to the reading accommodation on the ground-floor. In the basement there are large portions where the light would be doubtful, but in this particular other designs offend as much as *Con Amore*, and above that level great pains seems, generally speaking, to have been taken with the light; indeed, a larger amount of space is devoted to areas than some competitors have considered essential.

The treatment is classical, but with detail that is far more Greek than Italian. The series of bow windows, which tells well on the plan of the dining room, is frankly confessed in the treatment of the exterior, but it will require careful study to overcome the interference with general repose which these features would produce, at least as seen from any distant point. It however by no means follows that there would be any serious harm done by them to the effect of the building, seen as it will actually be seen in a narrow street. More satisfactory by far is the architectural treatment of the principal staircase as shown in a fine interior perspective view, and this feature will no doubt always render the interior of the club dignified, and give it an air of space and of easy access. We cannot but congratulate Mr. GRAYSON, who has hitherto been best known by works in Liverpool, upon his success in a singularly well-contested struggle against competitors of very good standing. The members of the Club have also, we think, reason to congratulate themselves on the generally high character of the competitive designs, and on the evident care and skill with which they have been prepared. The building will be one of considerable importance, and it is to be hoped that no false notions of economy will hamper the execution of it. Mr. GRAYSON's design is one that, on account of its comparative plainness, depends for its success on the use of the finest materials and the best workmanship to an extent which would not have been the case had one of the more florid elevations been successful. We trust that, when he has done his part by working it out thoroughly, his employers will do theirs by building it with equal thoroughness, and in a liberal spirit.

ETCHING AND ETCHERS.

WE take the following article, by Mr. W. S. Baker, from the last number of the *Penn Monthly*.

To no portion of his art treasures does the print collector refer with greater interest or more lively enthusiasm than the folios allotted to Etchings—original Etchings.

While entirely and thoroughly appreciating the importance of works by the master spirits of the burin, both as sources of pleasure and as teachers and refiners, yet such is the charm attending the examination and study of original designs, when transferred to the metal by the hands of men whose names are surrounded by the halo which genius can alone impart, that the eye never grows tired, nor does the mind become weary in contemplating them.

There is a freedom and ease so inseparable to the intelligent execution of the needle—so different from the studied exactness of the graver—the thoughts of the etcher seem so immediately carried out and expressed, and the aim of art to conceal art is so completely arrived at, that we are left to search for and enjoy the *idea*, without any feeling of handicraft, and become as it were thoroughly imbued with the spirit and intention of the work before us.

Etching, as a process for the ornamentation of metal surfaces, was practised as early as the middle of the fourteenth century. As to who first employed it for the purpose of taking impressions, authorities are in doubt, but to Albrecht Dürer, of Nürnberg, we owe the first important works, not commensurate, however, in success with the results obtained by him with the graver. Of his pieces, of which he etched some nine, *The Virgin and Child* and a *St. Jerome*, dated 1512, are considered the most satisfactory.

The practice may be described shortly as follows: A cleaned plate of polished copper is covered with a varnish protecting layer called "etching ground." To this the design is either transferred or drawn at once, or worked out on the ground with the aid of the etching point or needle. This point—a stout piece of steel wire, varying in thickness, inserted in a handle—removes the ground from the metal plate wherever it works or passes, thus exposing the plate to the action of an acid when poured over it, as it actually is in the next stage of the process. A low wall of wax having been built up along the margin of the plate, dilute nitrous acid is poured over the latter. This stage is called biting in. The acid coming into immediate contact with the copper, where the etching-needle has scraped away the ground as it traced out the design, eats away or corrodes out the metal more or less deeply, the stronger the acid and the longer

time it is allowed to remain. Where the ground has not been removed by the needle, the acid cannot act upon the plate. Thus, where it has been taken away, the design remains bitten into the copper, and visible as soon as the remains of the acid and etching ground are cleared off. The plate is then inked, and an impression or proof obtained as from other engraved objects.

In addition to the action of the acid, the dry point—so termed from the acid following its use—is brought into requisition, producing more or less of what is known as "burr." This burr, during the process of printing, gives off rich velvety gradations to the impression. The burr is, in fact, the ridge of the copper material thrown up by the dry point on the left edge of the furrow, as the instrument cuts its way through the metal, which, catching and retaining the ink in a peculiar manner, protects a certain margin of smooth copper against the operation of the printer's hands when wiping the plate. The ink remains on this smooth copper, but passes away from the burr with a delicate gradation, giving a peculiar softness to the line.

To the painters of the Italian school we are indebted for many beautiful and interesting specimens of the art. Parmigiano (the first Italian etcher), distinguished by his tasteful arrangement of subject, and spirit and animation of design; Annibale Carracci, for taste and correctness of drawing; Guido Reni, for beauty and freedom of style; Della Bella, for facility of execution and brilliancy of effect; Ribera, for knowledge of anatomy and careful finish of extremities; and Claude, the inimitable Claude, French by birth, Italian by art, in whose landscapes, according to a late writer, "the firmament is pure, the earth smiling, and the sea calm, radiant, hardly moving under the evening breeze."

But to see the process carried to its utmost extent, and exhibiting its greatest powers, we must turn to the Northern schools; and there, like a central light, shines forth the genius of a Rembrandt—the Prince of Etchers—"the Shakespeare of the art." Such was his command of all the means and appliances of the art—seemingly creating them at will—such was his truth and simplicity of composition, and wonderful effect of light and shade, that whether touching the most homely or translating the most spiritual subjects, he stands alone. Straining after no ideal, he represented things as he saw and felt them, and despite of his uncouth drawing and intense, often harsh, individuality, his works, with hardly an exception—and they number some 350 pieces—invite the closest study, and reveal at every turn fresher and greater qualities. Predominant alike in landscapes, portraiture, history and Scripture, his productions are common ground of admiration for all, and language seems to have been exhausted in expressing the enthusiasm and reverence in which they are held.

And why is this? From whence comes the charm which attracts alike the indifferent and enthalls the most cultivated? It is mind speaking to mind, heart to heart, soul to soul. It is this: that throughout all the works of Rembrandt there comes to meet us earnest truth, deep feeling, intense devotion. Careless of detail, careless of mechanical dexterity, the great loving heart of the artist appeals to us, his earnestness of purpose controls us, and his depth of devotion elevates us. Witness the impressive treatment of subject in *The Hundred Guilder Piece*, Christ Healing the Sick. Here is no beauty of form, no elevation of feature, no grandeur of style, but Christ human, surrounded by humanity, *heals*, not by the greatness of awe, not by the power of intellect, but by that abounding love and sympathy for the wretched and weary so strangely revealed by the few short strokes of the master hand. And by their faith were they saved!

And again, what delicacy, thoughtful delicacy, in the *Abraham sending away Hagar and Ishmael*; what dignity of command in *The Raising of Lazarus*, as we almost hear the words pronounced, "Lazarus, come forth!" How sublime in composition the *Ecce Homo*, and how touching in expression *The Death of the Virgin*.

In landscape how easy and simple! in portraiture how truthful and natural! The Burgomaster Six stands completely absorbed in his reading; Sylvius, the minister, calmly and thoughtfully expounds the Book of Life; Bonus, the physician, deliberates on the case of the patient he has just left, while his own mother sits the personification of revered age.

Other Dutch and Flemish painters have left us many cherished productions of the needle. Look at the vigour and energy of the Vandyck portraits, careless in execution, but spirited and delicate in touch; while the natural composition, dexterous management of chiar-oscuro and free needle of an Ostade render even the rudest boors interesting. In animal life, Paul Potter for the spirit and truthfulness of his designs, Berghem for elegance of feeling and clearness of atmosphere, and Karl du Jardin for delicacy of taste and manipulation, have never been equalled; while in landscape, what can be more agreeable than the distances and soft sunny atmospheres of a Both, and the exquisite foliage of a Waterloo. In the English school we have Turner—not a pure etcher—but of whose combination of mezzotint with etching, Hamerton, a practical writer, affirms that "on all technical points in the application of artistic judgment to method, his results are so sound and safe as to be beyond criticism," Wilkie with his two or three etchings of first-rate quality, Francis Seymour Haden, and Cruikshank, whose originality and wit are universally recognised.

The French school gives us the genius and wit of Callot; Boissieu, "the master of vulgar imitation;" Calame, full of trash and sentiment; Jacquemart, that most marvellous etcher of still life, and Charles Jacque, simple and pure in feeling; while Lalanne, knighted for his qualities as an etcher, Daubigny, Corot, Veyraessat, Meissonier and the talented young Spaniard Fortuny, stamp on the copper their well-known individual characteristics.

Of professional etchers, those who do not originate on the copper, but reproduce the works or translate the paintings of others, we have two shining lights—George Frederick Schmidt, of the last century, who etched a number of plates after Rembrandt's pictures, with much taste and excellence of execution, and Leopold Flameng, of our own day, who is *par excellence* the professional etcher. Flameng's power of copying the etchings of Rembrandt is so exhaustive, that he seems to have at some time or other actually dissected that master's plates, and got at the very anatomy of the great etcher's mode of procedure. His copy of the famous

Hundred Guelder Piece is in all respects a most marvellous imitation of the original. He has not only seized the spirit and intense feeling of the design, but almost given us the exact technic of the master. His last production, a translation of Rembrandt's renowned picture *The Night Watch*, is, for faithful rendering and admirable execution, one of the finest examples of professional etching extant.

In conclusion, much of the interest imparted to the plate of the landscape engraver is due to the point and acid, this process often forming the entire groundwork or outline of the design. No other form of engraving can so truthfully render the characteristics of foliage, the flow of water, the moving cloud, and general texture; add to this the tasteful use of the graver for finishing and giving solidity to parts, and we have the perfect work of this branch of line engraving.

SURVEYORS' FEES.

ON Saturday last the case of Gwyther v. Gaze was tried in the Court of Queen's Bench, before Mr. Justice Quain and a common jury. The plaintiff, Mr. W. W. Gwyther, sought to recover 158*l.* 8*s.* for surveyor's fees on quantities taken out on the orders of the late Mr. Seward, who was architect for the defendant.

The Hon. Mr. Thesiger, Q.C., and Mr. Willis appeared for the plaintiff, and Mr. T. Salter and Mr. W. A. Lewis for the defendant.

Mr. THESIGER, Q.C., stated the case. He said that Mr. Gwyther was a surveyor at Beaufort Buildings, in the Strand, and he brought his action to recover 158*l.* 8*s.* in respect of certain work in 1873. Mr. Gaze, who is a corn chandler, was under notice from the Metropolitan Board of Works to leave certain premises upon which he was carrying on his business, and therefore it was necessary to provide himself with a new warehouse, shop, dwelling, and a stable, and he fixed upon a place at Paul Street, Finsbury. The defendant engaged Mr. Seward, as architect, to prepare plans and specifications, and Mr. Seward employed the plaintiff to take out the quantities. The invariable practice was to charge a percentage upon the amount of the contract at 2½ per cent., with additional charges for lithographing of the bills of quantities, &c. In some cases the building owner did not accept the contract; and the quantity surveyor, being employed by the architect, as agent of the building owner, was entitled to be paid by the building owner, and it was under those circumstances that the present claim was made. There was no doubt in this case (although he did not think it really material with reference to whether Mr. Gwyther was entitled to recover from Mr. Gaze), that the defendant was informed that the quantity surveyor was taking out the quantities and dimensions for the purpose of tendering, and the defendant actually told Mr. Seward to hurry on with the work. In September, 1873, the estimates were all prepared, and all the details were taken out, and a form of tender was prepared by Mr. Gwyther, and three tenders were received by the architect, the lowest being Mr. Axford's, for 5,867*l.*, the three tenders appearing in the *Architect*. After these tenders had come in Mr. Seward came to Mr. Gwyther and told him that Mr. Gaze thought that the drawings would go to greater expense than Mr. Gaze was willing to expend. He asked Mr. Gwyther to reduce the calculations in the work to some extent, telling him that Mr. Gaze wished the matter to stand over awhile. So matters stood till July, 1874, when Mr. Seward fell from a scaffold and was killed; and shortly afterwards Mr. Gwyther learnt that Mr. Gaze was proceeding with the building, and using his plans and drawings. Under these circumstances, Mr. Gaze not having accepted any of the tenders pursuant to the ordinary course and practice in the profession, Mr. Gwyther would be entitled to the lowest tender in consequence of the work done for the defendant; and he sent in his claim in August, 1874, and to his surprise, without any suggestion as to the charges being improper, Mr. Gaze utterly repudiated any liability to the defendant. He (the learned counsel) could not tell what was the defence. It might be set up that the quantity surveyor did not do the work on the credit of the building owner, but was to be paid by the person who got the contract. That that was not so he had the authority of *Moore v. the Guardians of the Poor of Witney*, the marginal note of which said that "the defendants in that case employed King as architect to draw the specifications of a building proposed to be erected. King employed plaintiff to make out the quantities, which work was to be paid for by the successful competitor for the building contract" (just as the sum was to be added here for the building contract); "the defendants having refused to allow the expenses, it was held that they were liable to the plaintiff for making the quantities." These the defence was that they had never heard of the quantity surveyor; but the Court answered, "*inasmuch as you employ an architect to make plans and specifications for your building, and as it is the ordinary practice to have the quantities taken, he is your agent to take out the quantities.*" But here the defendant knew that there was a quantity surveyor, and he suggested to Mr. Seward that the plaintiff should reduce the estimates. Mr. Seward, in sending in his account, June 1874, wrote in a postscript to Mr. Gaze:—"I have written the surveyor, and you shall have his account in due course."

Mr. Justice QUAIN asked what the defence was.

Mr. SALTER said the defendant in September replied to the plaintiff's demand that he had never heard of a quantity surveyor, and that he had expressly told Mr. Seward that he did not want any tenders, as he had already got a builder.

A discussion then arose as to the amount of damages.

His LORDSHIP said he thought that a custom that the surveyor should be paid 2½ per cent. on the lowest tender when no tender had been accepted would be unreasonable, and that the plaintiff would be entitled, if to anything, to what the jury might think a reasonable remuneration.

Mr. SALTER said the plaintiff had charged 2½ per cent.; and he should show that 1 per cent. was the customary charge. Ultimately the case went on simply as to whether there was any liability, his lordship offering to settle the amount.

Mr. GWYTHIER was then called, and stated that he was asked to take out the quantities, but being very busy at the time he did not care about the work, and he stipulated for 2½ per cent. He saw the tenders in the

Architect, and he made out his bill on the lowest tender. Mr. Seward told him to cut down his estimates, as Mr. Gaze did not want to go so high.

Mr. ALEXANDER PEBBLES, A.R.I.B.A., and Mr. C. H. COOKE, F.R.I.B.A., were called, and stated that they thought that 2½ per cent. on the lowest tender was, in the present case, a reasonable charge. They said that from 2 to 2½ per cent. on the amount of the accepted tender was the charge usually made by the quantity surveyor, and that such a charge was reasonable; that sometimes 1½ per cent. was charged, but this was done by special agreement.

Mr. BOREHAM, who was employed in the evenings at Mr. Seward's, spoke of Mr. Gaze and his son coming to the place frequently whilst the plans were proceeding, and that they both agreed to have the quantities taken out; and they assented to Mr. Seward's suggestion of offering the work to three builders to tender for it, and that when the tenders were received the defendant complained that they were too high.

Mr. GAZE and his son were called in defence, and they utterly denied the statements of Mr. Boreham, saying that they all along thought of employing a Mr. Turner who had been engaged on a previous work for them. They admitted using some of the plans of Mr. Seward. They paid Mr. Turner as the work proceeded, and they dealt with their customers for the material for the building, thus writing off their customers' debts.

Mr. TURNER corroborated their testimony in reference to his employment, and stated that 1½ per cent. was the charge invariably made for taking out the quantities for such a building as that in the present case.

After speeches by the learned counsel on either side,

Mr. Justice QUAIN summed up. He said on the face of it this seemed a very simple case. The practice in these matters was extremely well known to anyone acquainted with the character of the business. The building in question was of a considerable extent; and where an architect is employed the practice is of the commonest; the architect made out a plan, and as soon as the plan was ready the first thing to know was what would be the cost, and the usual practice was for the architect to invite tenders privately or from the public generally. But before these tenders could be got the quantities must be got out so as to enable the builders to say what they can do the work for. The builders consider it best that the work should be got out by a surveyor independent of the architect, because if they are got out incorrectly the builders run the risk of tendering upon incorrect quantities. The builders consider that they are safer in the hands of skilled and experienced surveyors than in those of architects. That system had been approved in courts of law. When the builder got the quantities he made out his tender, and added the surveyor's percentage, and the latter was paid out of the first instalment, the building owner ultimately paying the whole of the charges. If things had gone on in the ordinary course in this case—if Mr. Seward had been instructed to procure tenders—it followed that he would have authority to employ a surveyor to take out the quantities upon which these tenders were to be taken. There was no doubt that he was employed to make the plans and specifications, and the drawings, and all the rest of it; but of course a building owner might hold his hand after that had been done, and say, "I will not invite any tenders at all, and I am not going to go on; and therefore it is unnecessary that I should take out any quantities." If the thing had been left in the ordinary course, there would have been no doubt whatever that if this building was to be gone on with that Mr. Seward would have had the usual implied authority of an architect, viz., to take out the quantities; and if the building was stopped by the act of the building owner, he must pay for the taking out of the quantities up to that time. But in the present case, on the part of the defendants, it was said by the counsel that "might be very well according to the ordinary course of business, but he would show that the defendants did not authorise the plaintiff to get any tenders at all, and that they held their hands, for the time had not come for employing a quantity surveyor." It was thus that the question arose. *Prima facie* what Mr. Seward did was done in the ordinary course of business; but when they came to consider who the defendants were (not corn merchants in a large way of business as he had been at first led to suppose), but merely small tradesmen who were probably utterly ignorant of transactions of this kind, the jury would see how the dispute arose. The dispute could never have arisen had they been men of business, or men of the world. They had the evidence of Mr. Boreham on the one hand, and the Gazes, father and son, on the other. Mr. Boreham was a respectable man without any interest in the transaction. He spoke to being in Mr. Seward's office preparing these plans; and that Mr. Gaze and his son were constantly there, looking over the plans which were submitted to them from time to time; and on one occasion Mr. Seward told Mr. Gaze and his son that "it would save time, and the builders would be got sooner to tender if the quantities were taken out;" and both of the defendants agreed to this; and then Mr. Seward submitted to them three names as proper persons from whom tenders should be invited, and, in pursuance of that authority, tenders came in on September 23. Mr. Boreham said further that, when the tenders came in, Mr. Seward went to Gaze's premises, which were close by, and asked the defendants to come over to see the tenders opened; but the excuse was that the one had the gout, and the other could not leave the business. Mr. Seward then opened these tenders, and told the Gazes the amounts, and that Mr. Gaze (and this was consistent with the whole of the case) said "that those sums were too high, and that they did not expect to lay out as much as the lowest tender, or anything like that money, and that the buildings ought to be reduced." That was a perfectly straightforward story of Mr. Boreham's, and his credibility had not been attempted to be impeached. Accordingly the architect did proceed to reduce the buildings, in order to bring them within the lowest possible cost. It was clear from a letter that the matter had been discussed, though the defendants denied it. The defendants appeared to be entirely mistaken as to what was going on, and there was no doubt that now their way of dealing with Turner—paying him from day to day or week to week, just dealing for materials with tradesmen they had on their books, and thus getting in their money—would get them into a muddle in the long run. The defendants said that they never intended to ask for tenders, but that, as Mr. Turner had been on

the old building, they would employ him on the new; but his lordship wanted to know how they got at the cost excepting through the plaintiff's quantities. On June 1, 1874, they certainly asked Mr. Seward to send in his bill, and this Mr. Seward did on June 23, sending in the drawings. To that letter there was this postscript:—"I have written the surveyor, and you shall have his account in due course." It was likely that the defendants did not know what a surveyor was, and probably thought it was some servant of Mr. Seward's; but, if they had gone to that gentleman, he would have enlightened them. Anybody who knew anything about these transactions would have known that, if quantities were taken out, the tenders would be procured on those quantities. That was the whole case. It was for the jury to say whether they believed the evidence of Mr. Boreham, that tenders were taken, and the quantities taken out; and, if so, the defendants were bound to pay a reasonable remuneration, which in this case was left to himself.

The jury consulted for a minute or two, and found a verdict for the plaintiff.

Mr. Justice QUAIN then said the verdict would be for 83l. 10s.

PORTLAND CEMENT.

AT the last meeting of the Institution of Mechanical Engineers, Mr. F. J. Bramwell, F.R.S., being in the chair, Mr. Henry Faija, of John Street, Bedford Row, read a Paper on "The Manufacture and Testing of Portland Cement and the Machinery used in its Production," especially as relates to the processes carried out on the Thames and Medway. The following is an abstract of the Paper:—

Composition of Portland Cement.—The chemical analysis of Portland cement gives about 80 per cent. of carbonate of lime, the remaining 20 per cent. being composed of silica, iron, and alumina. In practice these proportions are roughly attained by a mixture of chalk and mud, obtained from the banks of the Thames and Medway (or in some cases in lieu of the mud, gault clay), in the proportions of about 4 of chalk to 1 of mud or clay, according to the ingredients each material used is found to contain. These are mixed in what are technically known as wash mills, and the result, called "slurry," is run into large reservoirs or "backs," and allowed to settle; it is then dried and calcined at a high temperature, and afterwards ground between millstones to the requisite fineness.

Wash Mills and Elevators.—The wash mill is a circular pan, about 18 feet diameter and 4 feet deep, usually built of brick, with a brick bottom sunk into the ground and puddled on the outside; on one side of the pan is an opening, or in some cases an overflow; in the case of an opening this is covered with perforated zinc or wire gauze, forming a sieve, so as to allow of nothing passing but the chalk and clay, which is held in solution. In the centre of the pan is a vertical shaft, to which is bolted a framework carrying the harrows, on the under side of which the tines are fixed at different distances from the centre, care being taken in arranging these, so that no two shall immediately follow each other in their course, or in other words, be the same distance from the centre. The tines are usually made of wrought iron, about 1½ inch square, and their distance apart must vary according to the size of the chalk to be washed, chalk in large pieces of course requiring the tines placed further apart than when small refuse chalk is used. Outside the pan is the well into which the washed clay and chalk run through the sieve. If two or more wash mills are used, it is advisable to connect them all to one well, so that one pump may lift all the slurry from the different mills to the troughs leading to the backs. An elevator, consisting of a succession of buckets, fixed upon a continuous band revolving around an upper and a lower drum, is superseding the pump.

Washing.—The process of washing or mixing is simple: the chalk and clay, measured by the barrow load, are tipped into the pan, and the water is admitted in the proportion of about two of water to one of chalk and clay. The tines, in their revolution, throw the chalk and clay about, and thus thoroughly mix and disintegrate them, and being thus held in solution, the material passes through the sieve, or over the overflow, as the case may be, into the well, in the form of slurry, which is then lifted by the elevator or pump to the leading troughs, and thence passed to the backs.

Backs.—The backs are reservoirs usually made large enough to contain about 600 yards of slurry, thus (on the calculation that 2 cubic yards of slurry equal 1 yard of finished cement, and that a back will take from six to eight weeks to settle) it is easy to determine on the number required, the depth being about 4 feet and built with sloping sides. It is advisable to have as much "back" room as possible in proportion to the rest of the works, as, although the mills may be worked day and night, the slurry can only settle by gradual subsidence; and pushing a back, i.e. putting the slurry on the drying floor too wet, necessitates a greater amount of fuel to dry it, and thus a loss. When a back is filled, it is allowed to settle, the chalk and clay sinking to the bottom; the water is then drawn off by means of a sluice and the back refilled, the water being again drawn off when it is settled, and so on until the back is full; the slurry is then dug out and laid on the drying floor.

Drying Floor.—The drying floor is simply a floor formed of fire-clay tiles or iron plates, with an arrangement of flues underneath, stoked at one end and meeting a cross flue at the other end conducting to the chimney-shaft. In most manufactories the drying floor is constructed with coking ovens underneath, so that while drying the slurry, coke to be used in the kilns is manufactured; but in Mr. Faija's opinion this is a questionable economy, as the quantity of coke thus produced is nothing like sufficient to supply the kilns, and he therefore prefers a simple firegrate in place of the coking oven. With that arrangement the cheapest fuel can be used, less care is required in stoking, and the loss from bad coke is avoided; the cost of construction is considerably reduced, besides which the cost of repairs to a coking oven are considerable, as against almost nothing in the

latter case. It is advisable to construct the floor of such a size as to dry sufficient slurry for one day's work, so as to avoid loss of labour and fuel; it should be covered with a light roof supported on columns, the sides being left open to allow the steam generated from the wet slurry to escape, but at the same time protecting the floor from the weather. The slurry as it is brought from the backs is laid on the drying floor in a layer about 5 inches thick, which by the evaporation of the moisture becomes reduced to about 4 inches when dried; it is then ready to be loaded into the kilns to be burned.

Kilns.—The shape of the kilns varies considerably in different districts and according to the fancy of manufacturers; but the principal requirements are that they should have a good draught, and that their inner surface should be so formed that the clinker as burnt shall fall to the bottom evenly and without clinging to the sides, as when the clinker hangs, its weight necessarily brings down some of the inner casing of the kiln, and the kilns under the most favourable circumstances form one of the most expensive items in a Portland cement manufactory, costing as much as from 30 to 40 per cent. per annum of their first cost to keep them in repair. Perhaps the most economical size of kiln to adopt is one large enough to burn from 20 to 30 tons of finished cement. For a 20-ton kiln a capacity of about 70 cubic yards is requisite, though many manufacturers, by what is called topping, i.e., adding fresh coke and dried slurry as the clinker sinks, burn 30 tons in a kiln of that size. As a kiln takes one day to load, one day to burn, one day to cool, and one day to unload, the number of kilns required is for four days' work; but as repairs are more or less always necessary it is well to provide a sufficient number of kilns to do from four and a half to five days' work. The kilns are charged with alternate layers of coke and dried slurry, in the proportion of one of coke to two of dried slurry, and when properly burned the kiln is opened and allowed to cool, and as the clinker is drawn it is taken to the crusher to be broken into pieces, about 1 inch cube, preparatory to being passed through the millstones.

Crushing Rollers.—Various means of breaking the clinker are adopted, from the rough and somewhat expensive way of breaking it by hand with a hammer, to the most elaborate stone-breaking machine. But without going to the expense of such a machine, and yet improving on the former method, a pair of crushing rollers may be adopted with economy. The rollers, made of cast iron with chilled faces, are formed with longitudinal grooves their entire length, and are placed at such a distance apart as to break the clinker to the requisite size. A hopper is placed over them, leading the clinker between the rollers, which, by revolving in opposite directions, crush the clinker as it falls between them; the clinker is then led by an inclined plane to a trough convenient to be lifted by the elevators to the hoppers supplying the millstones.

Elevators.—These elevators are on the same principle as those for lifting the slurry, but the buckets in this case must be considerably heavier and stronger, and should be lipped with steel in order to withstand the roughness of the broken clinker.

Hoppers.—The hoppers leading to the millstones should be made with the sides sloped to a sufficiently steep angle to allow of the clinker falling easily to the bottom and into the shaking trough. This trough, which is made to shake by means of a cam fixed on the centre shaft of the millstone, allows the clinker to fall gently in between the stones, and also prevents the clinker blocking at the lower mouth of the hopper.

Millstones.—The millstones, generally from 4 feet to 4 feet 6 inches diameter, have an outer casing of iron. The clinker falling into the centre of the top stone, is taken in between the stones, and is gradually ground and led to the outer edge by grooves, such as are usually cut in millstones; it thence falls into the outer iron casing, from which a spout leads it to any convenient place, where it can be collected in barrows and laid on the warehouse floor.

Remarks.—It is of the greatest importance that the proper proportions of chalk and clay should be used, and it is therefore imperative that frequent trials should be made of the slurry as it leaves the wash mill, so as to ensure the backs being filled with a uniform quality. The chalk and clay should also be occasionally analysed in order to correct any variations that may occur in either.

The drying process being merely an intermediate stage, in fact, scarcely anything beyond assisting in abstracting the moisture from the slurry, does not call for particular attention; but the kilns again show the necessity of careful manipulation. Care must be taken that the kiln is burned evenly throughout, and when unloading, the clinker should be carefully sorted, and all yellow or softly burned pieces returned to be placed on the top of the next kiln and reburned, and only that clinker which is perfectly burned should be passed to the crusher to be eventually ground.

Having passed through the millstones, the cement should be laid out on the warehouse floor, and allowed to cool, being occasionally turned over; this mixes the different days' work and gives uniformity to the cement produced, and also allows any particles of lime still unslaked to slack by exposure to the air. The cement should be left in this way for a considerable time before being packed, and it will then have thoroughly cooled and there will be but little fear of its blowing when used; curiously enough, it will also have increased in weight and bulk, so that it is obviously to the advantage of the manufacturer to follow this course, though the great demand for cement, the space it occupies, and other trade reasons often prevent it being thoroughly carried out.

General Quality.—The quality of Portland cement is usually determined by its colour and its weight in combination with its fineness, besides which it is required to withstand a certain tensile strain when made into a "briquette" or testing block, and to show no signs of either expansion or contraction in setting. Though at present considerable diversity of opinion exists as to what the tests for fineness and tensile strength should be, still, when it is remembered that the cement should be of one uniform good quality, capable of being gauged with two or three or even more times its bulk of sand for use, and that when the weight and fineness are

in such proportions as to give a good carrying capacity for sand, the tensile strength is as a matter of fact assured, it then becomes possible to arrange such tests as will meet most requirements.

Tests.—In colour Portland cement should be of a dull bluish grey, and should have a clear, sharp, almost floury feel in the hand; a coarse gritty feel denotes coarse grinding, and the finer a cement is ground the more it approaches to an impalpable powder. It should weigh from 112 lbs. to 118 lbs. per struck bushel, and should be so fine that 80 per cent. will pass through a sieve of 2,500 meshes to the square inch; when moulded into a briquette and placed in water for seven days, it should then be capable of resisting a tensile strain of from 300 lbs. to 400 lbs. per square inch, and should during the process of setting show neither expansion nor contraction.

Weight and Fineness.—A light cement, *i.e.*, one weighing from 100 lbs. to 108 lbs. per bushel, is invariably a weak one, though it may be of the requisite fineness; at the same time a heavy cement, if coarsely ground, is also weak, and will have no carrying capacity for sand. As the more the clinker is burned the harder and heavier it becomes, and therefore more difficult to grind in the millstones, the heavy cements to be met with are almost invariably coarse ones; and as an under-burned cement from its softness will be ground fine enough, but will be deficient in weight, it will be seen that the weight, unless taken in conjunction with the fineness, is no test as to the quality of the cement. It will therefore be found advisable to adopt a medium weight such as before mentioned, namely from 112 lbs. to 118 lbs. to the struck bushel, as with that a finely-ground cement may be secured, and one that will suit most engineering and building operations.

Tensile Strength.—For the strength test a briquette is usually adopted, the breaking area or neck of which is 2.25 sq. in. The cement should be gauged with as little water as possible in a mould of the requisite shape, and in twenty-four hours it should have set sufficiently to be removed from the mould and placed in a tank of water, where it should remain for seven days, and at the end of that time be tested, when it should be capable of resisting a tensile strain of from 300 lbs. to 400 lbs. per sq. in. of breaking area. This, though a universally adopted test, is in Mr. Fajja's opinion open to objection on the ground that the cement is never used in a similar manner, and is in point of fact never, except in rare instances, subject to the strain of direct tension, though as a comparison between the strength of different cements it may be of use; still he thinks that some other test should be adopted which would be more in keeping with the manner in which the cement is ultimately to be used.

Expansion.—This defect, due to the cement being too hot, may be traced to various causes. It is to be met with most frequently in very heavy cements, from the fact of their containing in their original crude form a larger proportion of lime, which does not get thoroughly done away with in the process of burning in the kilns, consequently there remain small particles unslacked, which slack when the cement is gauged with the water for use; these eventually blow in the work, causing a general expansion. An under-burned cement, or one that is used too soon after it has left the mill and before it has had time to cool, will show the same defect. The most simple test to detect expansion in a cement is by making small pats with a trowel, about 3 or 4 inches square, and placing them in water when set sufficiently, where they should remain a few days. The cement if good will show no alteration in form; but any cracks showing on the edges, or other deviations from the original shape of the pats, indicate that the cement is of this expansive nature, and therefore not to be trusted. But because a cement will not stand this test, it is not, in all cases, to be condemned as useless, as its expansive or blowing property may be attributable simply to the cement being used too soon after leaving the mill; in which case a proper process of cooling, by laying it in a thin layer on a dry floor for a short time before using it, will correct the defect.

Contraction.—This defect, due to the cement being over clayed, is so seldom met with that it is needless to dilate upon it, beyond saying that it may be detected by a similar test to that for expansion.

In the discussion which followed the advisability of adopting continuous kilns in lieu of the intermittent ones mentioned in the Paper, as well as using the waste heat from the kilns for heating the drying-floor, were considered, and it was decided that the intermittent kilns gave undoubtedly the best results, though at a greater cost of fuel; and that, except under special conditions respecting the site, the waste heat from the kilns could not be advantageously used for heating the drying-floor. The dry process of manufacturing Portland cement was also fully discussed.

THE ARTISANS' DWELLINGS BILL.

THE Bill which was introduced on Monday evening by the Home Secretary, under the title of "a Bill for facilitating the Improvement of the Dwellings of the Working Classes in Towns," contains twenty-two clauses, besides a schedule of provisions with respect to the purchase and taking of lands otherwise than by agreement. The short title of the Act is to be "The Artisans' Dwellings Improvement Act, 1875." It is to apply only to—(1) the City of London; (2) the Metropolis, exclusive of the City of London; and (3) urban sanitary districts in England containing a population of 25,000 and upwards. The local authorities for the latter are to be the urban sanitary authorities, and for the former the Commissioners of Sewers and the Metropolitan Board of Works.

Where the local authorities are satisfied by official representation that diseases indicating a generally low condition of health amongst the population have been from time to time prevalent in a certain area within their jurisdiction, and that such prevalence may reasonably be attributed to the closeness, narrowness, and bad arrangement of the streets and houses within such area, or to one or more of such causes, and that the sanitary defects in such area cannot be effectually remedied otherwise than by an improvement scheme for the re-arrangement and reconstruction of the streets and houses, the authorities may make a scheme for the improvement.

The official representation may be made by a medical officer of health of any district, board or vestry in the metropolis, "a medical officer acting in pursuance of this Act;" and where twenty ratepayers complain to a medical officer of the unhealthiness of a given area it shall be the duty of the officer to inspect the area, to make an official representation, stating the facts of the case, and whether in his opinion the area is unhealthy.

The improvement scheme of a local authority is to be accompanied by maps, particulars and estimates, it is to distinguish the lands proposed to be taken compulsorily, and is to provide suitable dwellings within the area, or its vicinity for the accommodation of as many persons of the working class as may be displaced in the area with respect to which the scheme is proposed, as well as proper sanitary arrangements in the area.

Upon the completion of an improvement scheme the local authority is to publish in some local newspaper, during three consecutive weeks in September, October, and November, an advertisement describing the nature of the scheme, and the limits of the area, and naming a place where a copy of the scheme may be inspected. After these notices have been complied with, a petition is to be lodged with the Home Secretary for London improvements, and with the President of the Local Government Board for other towns; and if the confirming authority think fit to proceed with the case, they shall direct a local inquiry to be held as to the sufficiency of the scheme, and to hear any local objections which may be made to it. After learning the result of this inquiry they may, by a provisional order, declare the area unhealthy, and authorise the scheme to be carried into execution. This provisional order may contain suggestions and modifications of the original scheme, but the said order shall not be of any validity until and unless it has been confirmed by Act of Parliament. The confirming authority is to obtain such confirmation, and the matter is to then be a public general Act of Parliament. The confirming authority may make such order as they may think best in favour of persons whose lands are taken for any improvement scheme. All expenses incurred by the confirming authority is to be deemed to be an expense incurred by the local authority, and any order made by the confirming authority is to be made a rule of one of the superior courts.

When the confirming act authorising any improvement scheme has been passed by Parliament it becomes the duty of the local authority to carry the scheme into execution as soon as practicable. They may sell or let any part of the area to any purchasers or lessees, trustees, society, or persons who will carry the scheme into execution, and insert clauses in the leases prohibiting the division or alteration of the character of the buildings erected without the consent of the local authority, but the local authority are not themselves, without the express approval of the confirming authority, to undertake the rebuilding of the houses or the execution of the whole or any part of the scheme. Care is to be taken in carrying the scheme into effect to make due provision for the continued appropriation of such number of dwellings for the use of the working class as are required to be provided for in the scheme and for the maintenance of proper sanitary arrangements.

The Metropolitan Board of Works may appoint one or more medical officers to make special inquiry into the sanitary condition of any part of the metropolis.

Where a local inquiry is directed, an officer is to be sent by the confirming authority to the area to which such inquiry relates for the purpose of making an inquiry into the correctness of the official representation made to the local authority, and into the sufficiency of the improvement scheme, as well as into any local objections which may be made. The officer is to give public notice of the inquiry, and to report the results to the confirming authority, who are to deal with the report in such manner as may be thought expedient.

The Act is to authorise the taking by agreement of any lands which the local authority may require for the scheme; and when lands are taken compulsorily the estimate of the value is to be based upon the fair market value at the time, without any additional allowance in respect of compulsory purchase. The period after which the powers for the compulsory purchase or taking of lands are not to be exercised is to be three years after the passing of the confirming Act.

Upon the purchase by the local authority of the lands required, all rights of way, or of laying down pipes, sewers, or drains, and all other rights or easements relating to such lands are to be extinguished.

A separate account is to be kept by the local authority of their receipts and expenditure in respect of any transactions under the Act, and the money required in the first instance is to be supplied out of the local rates or out of moneys borrowed in pursuance of the Act.

The local authority may borrow money on the security of any property acquired by them under the Act, and pay the interest out of the local rates. The Public Works Loan Commissioners may, on the recommendation of the confirming authority, lend to any local authority any money required by them for the purposes of this Act, on the security of the local rates. The loan is to be repaid within fifty years, and is to bear interest at the rate of three and a half per cent., or such higher rate as may in the judgment of the Treasury be necessary.

WESLEYAN CHAPEL BUILDING.

DURING the past year there was sanctioned the expenditure of the sum of 328,413*l.* in the erection in this country of 130 chapels, 30 ministers' houses and schools, 186 enlargements and alterations of chapels, and a further sum of 9,022*l.* in the erection of 40 new organs, being 60,943*l.* more than in any previous year.

Several additional chapels, schools, and organs were also erected at the cost of private individuals. The number of sittings provided by new erections and enlargements last year is 22,745. During the past twenty years the entire outlay in this country in these erections and enlargements has been 3,236,053*l.*, and debts to the amount of 1,021,555*l.* have also been liquidated. In the first decade 709 chapels were built, and in the second 1,214. The total number of places of worship in Great Britain is 7,485, and the number of sittings provided 1,723,495.

ILLUSTRATIONS.

SOUTHOVER HOUSE, LEWES.

THIS illustration has been copied from the drawings prepared by Mr. C. F. HAYWARD, F.S.A., of 29 Montague Street, Russell Square, for the restoration of this ancient mansion. Southover House is situated at the base of Keere Hill, and, according to HORSFIELD'S "History of Lewes," it is built with Caen stone obtained from the ruins of the Priory of St. Pancras and those of Sackville House. When the mansion of the Baron of BUCKHURST, denominated the Lord's Place, was destroyed by fire, at the latter end of the seventeenth century, WILLIAM NEWTON was steward to the Earl of DORSET, and resident in the Priory of St. Pancras. Southover House was erected by him.

TOMB OF HENRY VII., WESTMINSTER ABBEY.

THE drawing from which the present illustration has been reduced formed one of a set which obtained a medal for "Measured Drawings" at the late examination of the Royal Academy School of Architecture. The famous structure was probably never before presented on so large a scale, or the vast variety of details shown with so much accuracy. Mr. PITHEE is deserving of thanks from all lovers of English architecture, for the perseverance and industry through which he succeeded in producing so complete a representation of a most difficult work. We intend to publish further drawings of the details.

COMPETITIONS.

UNDER this heading we propose to give each week, or as often as may be necessary, a brief account of the conditions of such competitions as may at the time be open to the profession. In doing so we shall point out what conditions have been framed in accordance or at variance with the rules agreed upon at the General Conference of 1872; beyond this it will not be our province to go, our object being to help the reader to ascertain (more than an advertisement can) whether the conditions of a particular competition are likely to meet with his views, rather than to furnish a reprint of such details of requirements, &c., as he must, after all, obtain for himself. The numbers refer to the corresponding paragraphs in the General Conference Rules above mentioned.

Schools for Dartford School Board.

1. No professional assessor is guaranteed, but the Board vaguely hint at the possibility by reserving to themselves a liberty which no one would dispute of calling in professional assistance "if they think fit."

3. Number and scale of drawings are given, and "perspectives must accompany the designs," whether etched or in colour is not stated.

4. No mention whatever is made of the sum intended to be expended.

6. If the Board deem it advisable they may exhibit the whole or any of the designs sent in in either a public or a private manner.

7. There are two premiums, but "the Board do not engage to carry out either of the designs, or to employ either of the architects;" but,

8. Should the author of either design be employed, the premium is to merge in the commission. The premiums are fixed at 20*l.* and 5*l.*, and seem inadequate for a provision of 300 children.

9. The premiated designs to become the property of the Board. Time, March 8.

West Ward (Appleby) Union Workhouse.

We have received the instructions for this competition, but there are absolutely no reciprocal conditions of any kind; it would appear to be a competition *sans* assessor, *sans* employment, *sans* premium, *sans* everything. Time, March 8.

Mossley Cemetery.

The conditions of this competition are not in accordance with rules 1, 3, 4, 6, 7, and 9.

8. The premiums are 20*l.* and 10*l.* Time, February 17.

THE LIVERPOOL ART CLUB.

A COLLECTION of ancient and modern embroidery is now being exhibited in the rooms of this club. There are one hundred and twenty-three examples, representing Japanese, Chinese, Persian, Turkish, Indian, German, Sicilian work, as well as modern English work. Some vestments have been contributed from the fine collection belonging to Stonyhurst College. One is a cope, of Florentine gold tissue, with ornamentation in rich pile, upon pile crimson velvet, and loopwork of gold and silver. This superb specimen of sixteenth-century work was made at Florence for Henry VII., along with numerous other ecclesiastical vestments, and doubtless used at the consecration of his chapel at Westminster. It was bequeathed by him to Westminster Abbey, "there to remain while the world shall endure." Little is known of the subsequent history of this cope. It found its way to the English College at St. Omer, and was brought back to England at the time of the French Revolution. The gold tissue is of the richest description, and is still in remarkable preservation. The ornamentation is extremely bold and artistic, consisting of two twining stems, bearing red and white roses. The stems and red roses are of crimson pile, upon pile velvet, dotted with gold, and the white roses are of

silver loopwork, outlined with crimson cut pile. The Beaufort badge represented three times in combination with the foliage, and once in border. It is executed in loop gold and silver, outlined with cut pile. The border consists of the portcullis badge, with "S. S." and white roses repeated right and left. The hood and orphrey are of later date.

There is also the chasuble, commonly called "St. Dunstan's Vestment" from the embroidery of the Saint, in the act of pinching the devil's nose which it contains. This is a magnificent specimen of mediæval art, and of the greatest richness, both as regards material and manipulation. Its design it is divided into three vertical compartments, the centre one containing the Martyrdom of St. Thomas of Canterbury, under an elaborate architectural composition, and figures of St. Paul, St. John, St. Philip, and St. Bartholomew. The lateral compartments contain the Sacraments of the Church, St. Dunstan and the devil, martyrdoms of saints, and six single figures, all placed under architectural canopy work. The embroidery is generally the *opus plumarium*, with gold hatching largely used in the draperies, giving much the same effect as one sees in the miniatures of the fifteenth and sixteenth centuries. Most of the backgrounds, the canopy work, and borders are of rich gold, couched in various methods. Appliqué is sparingly introduced, and bears indications of not being so old as the rest.

Another of the Stonyhurst chasubles is Italian workmanship, and is of gold tissue, with orphreys of embroidery in imitation of mediæval work. The back orphrey is in the form of a cross, with the Annunciation in the centre and heraldic shields on either side. In the lower portion is a crucifixion and the figure of a saint. The front orphrey has figures of St. Peter, St. Paulinus de Luca, and St. Sebastian.

From St. Gregory's College come two chasubles; one is of green silk, with ancient orphreys and modern mountings. The principal one has figures of our Lord, St. Peter, St. Ambrose, and St. Catherine, with the four evangelistic symbols in the lateral arms. The scroll-work gold couching in this specimen is rather unusual. The second is of purple silk, with ancient orphreys, and modern mounting. The back has a crucifix, surmounted with holy dove, and having lateral angels with chalices. Underneath are two figures under canopies.

The Rev. T. Caldwell lends a chasuble, of gold and white brocade, with orphreys of ancient work. The back one is a crucifix surmounted by the symbol of the Holy Ghost. At the extremities of the lateral arms are angels holding chalices to receive the blood from our Lord's hand and side. Under the crucifix are the Virgin and Child, and an emblazoned shield—the arms of Robert Ratcliffe, Earl of Sussex, and Elizabeth Stafford, his wife; time of Henry VIII. The whole is in mediæval feather stitch and richly couched gold.

Another from the same contributor is of red velvet, powdered with figures of angels and fleur-de-lys. The principal orphrey is a crucifix, surmounted by the dove, and with side angels holding chalices. Underneath are figures of St. Peter and an unknown saint. On the front orphrey are three saints under canopies.

A chasuble that at one time belonged to Craike Castle, Yorkshire, has been lent by the Rev. Percy Anderson. It is of rich gold and velvet brocade with gold filagree lace border. The back orphrey is a crucifix with St. John and Mary. At the top is a figure of the Deity with crown and orb. On the lower limb is a representation of Christ bearing the cross. The front orphrey contains three saints under canopies. The embroidery is the *opus plumarium* and gold couching; and the colouring generally is very fine. There is also a curious border to an altar cloth consisting of silk upon linen, having figures of saints in medallions. This comes from the ancient church of Hrani, in Iceland, and is believed to be fourteenth-century work. The Rev. C. Parnell contributes a red altar frontal and super frontal, which was designed by Mr. G. E. Street, R.A., a chalice veil which is said to have been used by St. Francis, of Sales, and a cope which was embroidered at St. Margaret's Home, Liverpool, from designs by Mr. C. E. Kemp.

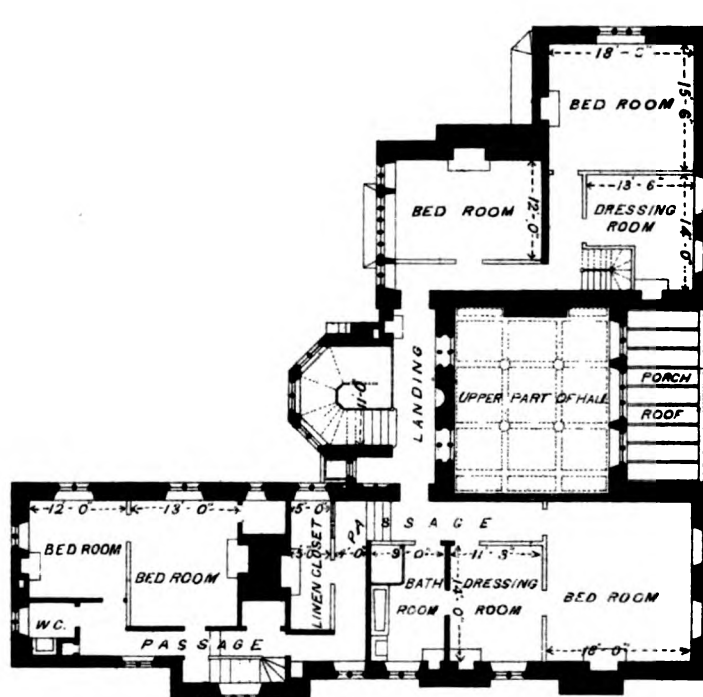
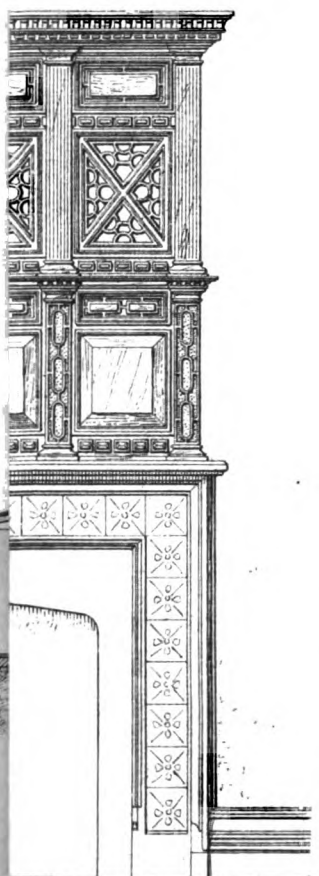
The other examples are in their way exceedingly interesting, and the Liverpool Art Club have done good service in bringing together so many objects of a class which seldom comes under the notice of amateurs.

THE PICTURE GALLERIES OF EUROPE.

ACCORDING to a statement in the last edition of the Catalogue of the National Gallery it appears that while in the national collection there are 640 pictures (exclusive of the Vernon and Turner collections), there are in Rome, in the gallery of the Vatican, 37 pictures; in that of the Capitol there are 226; at the academy of Bologna there are about 280; the Brera of Milan has 503; at Turin there are 569; at Venice 688; at Naples there are 700, exclusive of the ancient paintings from Pompeii and Herculaneum; in the Berlin Gallery, recently established, there are about 1,250 pictures; in the Pinacothek, at Munich, there are about 1,280, and 200 modern pictures in the new Pinacothek; in the gallery of the Belvedere, at Vienna, there are upwards of 1,550, exclusive of the modern pictures; in the Imperial Hermitage at St. Petersburg there are 1,681, of which 327 are Italian; in the Royal Gallery of Florence (Degl' Uffizi), there are upwards of 1,200, and about 500 in the Pitti Palace. At Amsterdam, there are 386; at the Hague, in the Museum, there are 304. The collection of Antwerp contains 606 pictures; and at Brussels there are upwards of 550. There are upwards of 1,800 in the Louvre (exclusive of the Campana Collection), 543 of which are Italian; and there are 207 at the Luxembourg; in the Museo of the Prado, at Madrid, there are 1,833; and the celebrated gallery of Dresden contains about 2,200 pictures, exclusive of the pastel collection. At Versailles, there are above 4,000 works of art chiefly paintings, and almost exclusively illustrative of French history. The Borghese Gallery at Rome, which is the best private collection in Europe, contains 526 pictures. The Leichtenstein Gallery at Vienna has 713. In the Grosvenor Gallery there are 192; in the collection of the Duke of Sutherland, 323; in the Bridgewater Gallery, belonging to the Earl of Ellesmere, there are 318; and in that of Burghley House, Northamptonshire, belonging to the Marquis of Exeter, there are upwards of 600 pictures.

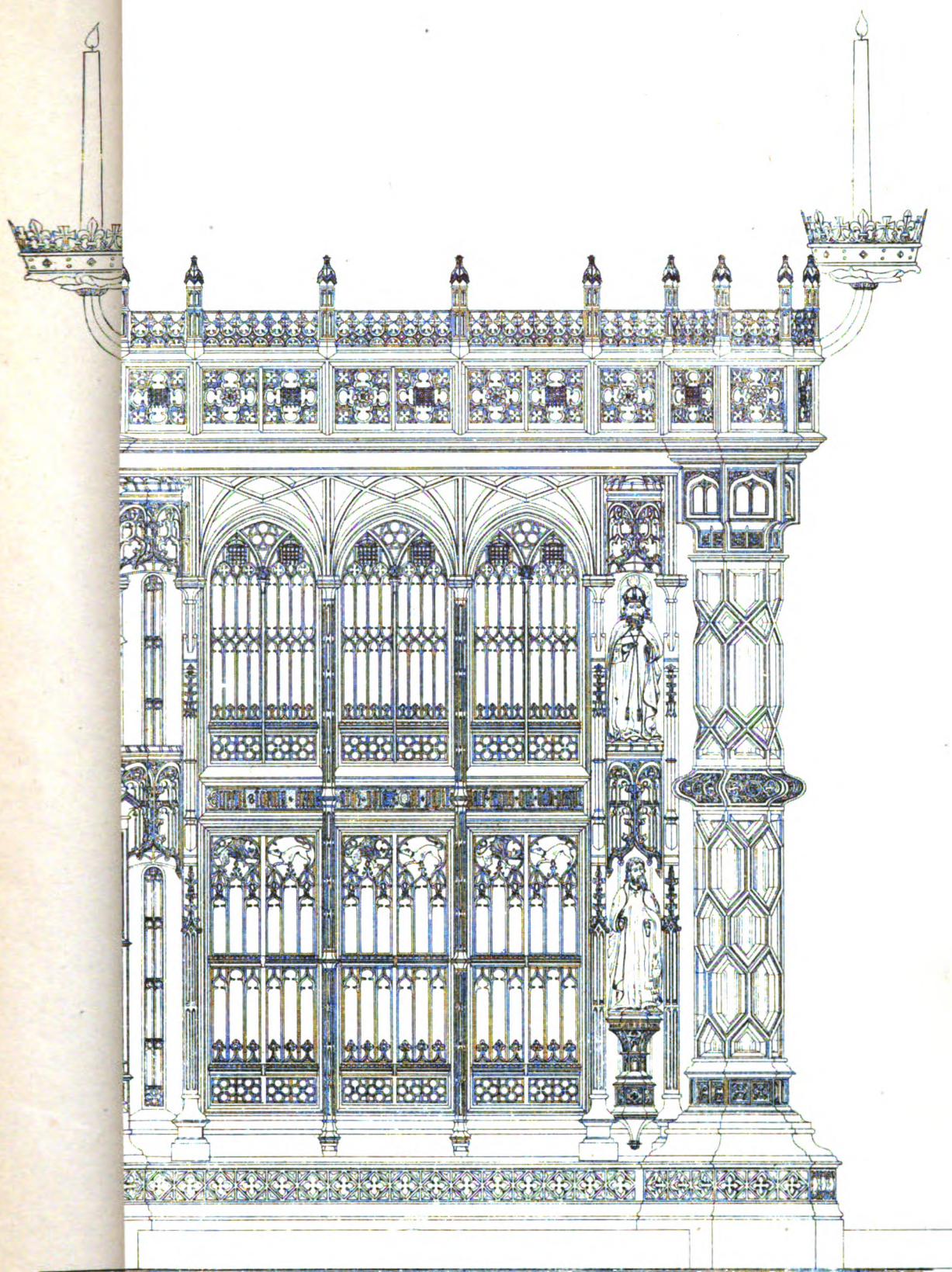


OR FRONT ELEVATION.



Printed by W. W. Sparrow & Co. London, E.C.





Francis L. Petre
61 Thistle Grove, SW.

Printed by W. W. Spangue & Co London, E.C.



THE ARCHITECTURAL ASSOCIATION.

At an ordinary meeting held on the 5th inst., Mr. G. H. Birch, President, in the chair, the following members were elected:—Messrs. Peter Fowke, Hugh T. Porter, Thos. Milton, F. W. Lacey, and T. R. Braham. The thanks of the Association were voted to Mr. Norman Shaw, A.R.A., for allowing members to visit Lowther Lodge, Kensington. It was announced that Mr. J. H. Goode, and the President (Mr. Birch) had given five guineas each to the prize fund; and, the preliminary business having been disposed of, Mr. R. M. Fulford, of Exeter, read a Paper, which was illustrated by a magic lantern, on

The Architecture of the Brittany Coast.

Mr. FULFORD, in the course of some introductory remarks, said that he had visited Brittany four times by various routes, and he had drawn upon only a part of the notes collected by him for the material of this Paper. Brittany is divided into five departments, and is 175 miles long, with an average width of 75 miles. It offers a large and varied field of travel and study for the young architect, and its scenery is very beautiful. Taking the boat at Southampton, St. Malo is reached in due course; and putting up at the Hôtel de France, the birthplace of Chateaubriand, the traveller finds a decidedly picturesque quadrangle. The cathedral is so much crowded in with houses, that no good view of the exterior can be obtained, but the spire can be seen well from the ramparts. The west front fairly startled him from its hideousness, being a good specimen to show a friend whom you wish to wean from his Renaissance proclivities. Entering the door, however, the traveller's eyes would be refreshed by the sight of the Romanesque nave (though this has been considerably "Classicised") and the First Pointed choir beyond, separated by a high iron grille. The choir was restored by the late Emperor, and the high altar surmounted by a Gothic baldachino. The old walls, completely encircling the town, still remains, and afford a fine promenade on the top, from which a good view of the cathedral and the First Pointed tower, surmounted by a modern over-crocketed spire, is obtained. There is next to nothing in the way of domestic architecture, the lofty houses, with windows of the "hole-in-the-wall type," being packed as closely as possible. The church of the populous suburb of St. Servan is a modern Classic building. The ancient "Tour de Solidor," built in the fifteenth century, is beautifully situated on a rock at the mouth of the Rance.

A delightful trip of 12 miles up the Rance brings the tourist to Dinan. The walls of "lovely Dinan" come in sight at the last bend of the river, where there is a fine old Gothic bridge, with two pointed arches and a drawbridge. Ascending by a zigzag path, the traveller enters the town under one of the old Decorated gateways, and passing an octagonal well of late Gothic work, enters the Place du Guesclin. The Church of St. Sauveur is a highly interesting building. The lower part of the west front is Romanesque, but the upper part is Flamboyant. The west doorway and two flanking blank arcades have semicircular arches of three orders (some of which are beautifully carved), resting on shafts with quaint capitals. The blank arcades contain statues of the Four Evangelists, and projecting from the wall above the spandrel spaces are the winged lion of St. Mark, and the ox of St. Luke, each carved out of one huge block of granite. The subdued yet rich tone of the interior is particularly striking, owing mainly to the warm colour of the granite piers, arches, vaulting ribs, &c. The south wall of nave is Romanesque, and in the upper part there are large semicircular-headed windows, between which are blank arcades, filled in with figure subjects in monochrome. There is a charming little Decorated vaulted chapel projecting from the south wall, and a south transept of the same date. The choir ends in an apse. The ribs of vaulting and arch-mouldings die into the shaft without any cap—a treatment which Mr. Fulford did not admire. The picturesque streets abound in fine old timber houses, supported on columns forming a covered way for foot passengers. Many of the mouldings, carvings, &c., are very good. The other church, dedicated to St. Malo, which was partially rebuilt in 1490, is a fine specimen of Flamboyant work. The clock-tower is of the same date, and worth a visit.

Leaving Dinan by the Porte St. Louis, and following a footpath for nearly a mile, the traveller reaches Lehon. The ruins of the abbey, though not very extensive, are in an unusually perfect condition, the tracery of the windows and the vaulting of the Chapelle des Beaumanoir on the south side still remaining, the ribs springing from detached wall-shafts, with richly-carved capitals. The west front has a Norman doorway, with blank arcades of two pointed arches on each side. Over this is an early two-light window, with a trefoil in the head, flanked by blank arches. The treatment of the buttresses to resist the thrust of vaulting on the south side is unusual, and on the north side are the cloisters, which are perfect, with the exception of the vaulting. Adjoining the abbey is the little parish church with its slender slate spire. There are extensive remains of the castle, of the twelfth century. A walk through some pleasant lanes brings the tourist to the Gothic crucifix of St. Esprit; it is triangular on plan, with an hexagonal central shaft with flying buttresses. The groups of figures on the summit are much mutilated. Three miles from Dinan are the ruins of the castle of La Garaye. The remains are mainly of the Renaissance of the sixteenth century, and there is a good octagonal turret with O. G. labels heavily crocketed, and some immense chimney-pieces, partially buried in the *débrie*.

At Dol there is the fine old Cathedral dedicated to St. Samson. The west front, which is in a dilapidated state, has two towers, the nave being unfinished. The Porte Episcopale, at the extremity of the south transept, dating probably from about 1350, must have been very beautiful when the statues (which were destroyed at the time of the Revolution) filled the vacant spaces round the arches. The interior is strikingly grand, the choir having a square east end, with an eight-light window filled with old glass, under which is a semicircular arch, divided into two openings by a central shaft and two pointed arches, through which a glimpse is obtained of the well-restored Chapel of St. Samson beyond. The church was burnt

in 1203, and reconstructed during the thirteenth century, which accounts for its uniformity of style. The pillars of the nave have four detached shafts, the inner one running up to the vault, held together at intervals by metal bands. In the Grand Rue there are many of the old houses remaining, with their upper storeys supported on massive granite monolithic pillars, with quaintly-carved capitals of the same date as the cathedral. At the higher end of the town is the desecrated church of Notre Dame sous Dol, now a corn market. The nave is Romanesque, the south aisle and west window is Flamboyant, the whole being surmounted by a Decorated tower over the intersection of nave and choir.

At Combourg there is a perfect specimen of a fifteenth century castle. It is square on plan, enclosing a courtyard with round towers at the angles, covered with conical roofs. This old castle, the residence for centuries of the Chateaubriands, and still belonging to the family, is well worth a visit. The church is modern.

At Hédé there is an uninteresting church, and some extensive remains of a castle, finely situated.

The church of Les Ifs is very picturesque, and is mainly of the fifteenth century. It has nave, chancel (square), with two side chapels, two transepts, and west and south porches. The roof is well painted, and a great deal of the original glass remains. A quarter of a mile to the north stands the Chateau de Montmuran. The remains of the old castle (where Du Guesclin formerly dwelt) consist of two towers, a Flamboyant chapel, and kitchen under. There is a large modern wing in the Renaissance style added to the old work.

A walk of six miles brings the traveller to Béchere, where there is nothing particularly worth sketching, except a fourteenth century gateway and the slated towers of the modern church. Taking the diligence for Montfort-sur-Mer, the visitor will find both the churches to be of inferior modern work. About a mile and a half out are the remains of the Abbey of St. Jacques, which are not of much importance, merely consisting of the west front of the church, of Decorated work, incorporated with a modern building.

At Lamballe the church is finely situated on a rocky eminence, with its many gables on the south side (indicating as many altars within), and massive tower over the intersection. The nave is of early thirteenth century work. The piers are cylindrical, with richly-carved capitals. The choir is fourteenth century work, and is very narrow and lofty, terminating in a square east end, with a four-light window. The arch is treated in a curious manner at the springing. There are three small shafts at the jambs, and the arch is unmoled with flat soffit, so that there is a sort of stop-chamfer above the caps.

Guingamp has a wonderfully picturesque market-place, with a Renaissance fountain in the centre, and surrounded by old houses. Many of the old timber and stone houses remain, with quaint dormers and corbelled angle turrets. The Church of Our Lady is a highly interesting building. The plan consists of a nave and four aisles, two square towers at the west end, a north porch, and a spire over the intersection, the chancel ending in a pentagonal apse. Particularly worthy of notice are the interior flying buttresses in north aisle, thrown from the caps of detached piers to the outer wall, and the fourteenth century north porch, in which is an altar only separated from the street by a high iron grille.

At the village of Grâce, two or three miles distant, the church of Notre Dame has a good Flamboyant spire and west doorway, and the west doors have curiously-carved panels of late work, but the church is otherwise uninteresting. Near this village is the chapel of the Abbey of St. Croix, a fine twelfth-century building, now used as a stable. Adjoining are the domestic buildings, of the sixteenth century, with a good hexagonal tower.

At Paimpol the church possesses a little thirteenth-century work, some decent pictures, and a sixteenth-century triptych, beautifully carved, but it is otherwise commonplace. Two miles and a half to the west are the extensive ruins of the Abbey of Beaufort, beautifully situated on the coast. They are mainly of the thirteenth century, and consist of the nave, some portions of the cloisters, and a chapter-house, which still retains its vaultings, and has three circular shafts in the centre. It is now used as a school.

A walk of 9½ miles from Paimpol brings the tourist to the old cathedral town of Tréguier. The cathedral is a very fine building, mainly of Decorated work. There is a Romanesque tower at the extremity of the north transept, called the "Tour du Hastings," a Decorated tower with a low slate spire over the intersection, and a fifteenth-century spire at the extremity of the south transept. On the north side are good cloisters of late Decorated work. The cathedral has been well restored, and a little colour introduced. The west porch is of unusual design. The outer arch is semicircular, divided into two trefoil-headed openings by a detached central shaft. The two inner doorways have trefoiled heads, with a figure standing on a shaft between them under a canopy. This porch must have been very beautiful when the vacant brackets, supported on small columns, were filled with statues. The font in the baptistery, on the south side, has a hexagonal bowl, supported on a centre shaft and six small detached ones. There are some good misereres in the choir.

La Roche Darrien has an interesting church. The south porch has an unusual treatment of sedilia. The nave is Romanesque, and the south transept of Decorated work. Ten miles distant is Lannion, on the banks of the river Guier. The church is poor, but there are some good street bits. Lannion is in Lower Brittany, and Brezonne is universally spoken. On the other side of the river is a fine pile of Renaissance buildings, now a hospital. A little way up the river is an early Gothic bridge. In the suburbs of Lannion is the church of Brelevenez, approached by a flight of 200 steps. It is a fine church. The apse and the south door are particularly worthy of notice. The church is of Romanesque and Transitional work, and under the choir is a crypt, in which is a scene of the Entombment, the figures in wax being life-size. At Ploubé there is a sixteenth-century church, with a fine tower. Three miles further are the grand old ruins of the castle, which are of great extent and in excellent preservation. In the dining-hall there remain several windows, with stone seats in the

thickness of the walls (which is 15 feet). In the keep, formerly only accessible on the first floor by two drawbridges, supported midway by a stone pier, several of the stone staircases in the thickness of the wall still remain in a perfect condition. The castle was mostly rebuilt at the end of the fourteenth century.

At Plonaret the church is mostly of Flamboyant work, and consists of a nave with two aisles, with good arcades (bedaubed in the most villanous manner, in imitation of marble), two side chapels, a fine late Decorated east window, and a Renaissance west tower.

Morlaix is a wonderfully picturesque old town, built on the confluence of two rivers in a narrow valley, and has good quays. The railway viaduct is nearly 200 feet high. The streets contain many good timber houses, with carved angle posts, &c. The church is a mixture of Renaissance and Flamboyant work, possessing nothing particularly worth notice, except the stoup for holy water in the south porch. At the outskirts of the town is a ruin, which Mr. Fulford thinks must be the west front of an old church. It consists of a Romanesque doorway, surmounted by a flat segmental arch filled in with tracery heads and a pierced parapet of quatrefoils; over this again a rose window of seven sexfoiled openings.

In the neighbourhood of St. Théogonec, the next station on the Brest line, there are many good wayside crosses of granite. The churchyard, about 1½ mile from the station, is entered under an archway, on the left of which is the ossuary, on the right the calvary, and in front the church, the whole forming an imposing group, all in the Renaissance style of the sixteenth and seventeenth centuries. The calvary was built in 1610, and is of the dark green Kersanton stone. It is very elaborately sculptured. On the outside of the charnel house are rows of skull boxes, in niches. It is a custom in Brittany not to allow the bodies to remain unmolested in the grave, but the survivors, as a mark of respect, are expected to remove the skull and bones from the coffin, and put them in niches or skull boxes, the name or initial being written across the fleshless brow. The church is exceedingly elaborate, and there is a good deal of Gothic feeling in it, with its high-pitched gables, carving, &c., but the effect of the whole group is marred by the ill-proportioned cornices, string-courses, &c., and the surface being over-decorated and cut up by pilasters, niches, &c.

The tallest of the three spires at St. Pol de Leon is that of Notre Dame de Craisier, and the other two are those of the Cathedral. The former spire is 400 feet high, and is said to be the work of an English architect, although there is nothing particularly English in its treatment. It is undoubtedly a fine tower, but appears to be rather top-heavy, owing to the entire absence of visible buttresses, and to being so corbelled out at the base of the spire. The spire is pierced with numbers of foliated openings commencing with a circle at the top, and the number of foils increasing as the octagon enlarges towards the base. The principal things worthy of notice besides the spire are the late Decorated north porch and the piscina, and the six-light geometrical east window. The Cathedral has been restored since 1865, on the whole fairly well, but the joints are pointed with a very dark mortar, which produces rather a stripy effect, and a superabundance of horizontal lines. This fine building is mainly of the thirteenth and fifteenth centuries, the nave, aisles, porch, and two west towers being of the former, and the choir (which ends in an apse) being of the latter. The caps of some of the piers and the spandrel spaces in south porch are beautifully carved. Piled up on the string-courses, caps, and every other available projection were rows of skull-boxes. Over the intersection of nave and choir are three small turrets, the centre one for the sanctus bell being of elegant design.

At Roscoff, three miles distant, is a fine Renaissance church with a spire of very original design. The roof is a barrel one, with hammer beams and richly-carved wall-plates. In the churchyard is a good ossuary, which, though Renaissance, still retains its high-pitched gable. Many of the original houses remain; they are built of granite, with pointed doorways and mullioned windows.

At Lesneven the church is uninteresting, and there is nothing worth seeing in the town, but about a mile distant is the church of Le Folgoat. There is a curious legend in connection with the history of this church, with which Mr. Fulford refrained from troubling his audience, for is it not written in the book of Murray? The west front has a fine spire on the north side, with a gallery of open tracery work running round the tower below the base of the spire. The tower on the south side is in an unfinished state, with a low conical roof. The west door is beautifully carved, but the great gem of the church is the roodscreen, of bronze like Kersanton granite; it has three semi-circular arched cusped openings, with the original altars, under the two side ones, supported on four pillars. The gallery is defended by a parapet of pierced quatrefoils. The carving and arries are beautifully sharp and fresh, owing to the hardness of the stone, which one could easily mistake for metal at a distance. The three original stone altars in the choir and aisles still remain, and there are some curious wall paintings, illustrating the legend before described, in the Fools' Chapel, attached to which chapel is a fine porch containing statues of the Twelve Apostles in niches; the exterior is crowned with a pierced parapet of quatrefoils.

At Landerneau, pleasantly situated in the valley of the Elorn, the two churches are late. One of them, dedicated to St. Thomas of Canterbury, has an elaborate Renaissance porch bearing the date 1620.

At Plougastel they were building a new church in the poor Gothic of the modern French school at the time of Mr. Fulford's visit, with very slender mullions, reedy mouldings, and wood vaulting. On the south side of the church is the renowned calvary. A few miles from Plougastel is the village of Daoulas. Entering the village the pedestrian comes upon the Chapel of St. Anne, with the Abbey (founded in 1187) opposite. It is now used as the parish church, and there is a mortuary chapel and calvary at the entrance to the yard. There are remains of the twelfth-century cloisters, with a fountain of the same date in the centre of the quadrangle. The semicircular arches are supported on a double row of small columns, with carved capitals. There is also a curious window on one side of the cloisters. The abbey was undergoing a careful restoration under the supervision of the curé, in a strictly conservative spirit, and the Romanesque

piers and arches were being denuded of the coating of plaster. The south porch is Renaissance, with some good foliage. The chapel of St. Anne is uninteresting.

Quimper, one of the principal towns of the ancient county of Camonille, possesses a fine cathedral, which has recently been well restored. It is mainly of fifteenth century work, except the two west spires, which are modern. The west doorway is richly sculptured, and entering it a strikingly unbroken view of the interior is obtained. The choir, which leans much to the north, terminates in an apse. The high altar is a good specimen of modern work, and over it is a Gothic baldachino, coloured and gilt.

At Pont l'Abbé, ten miles distant, the church is mainly of late Decorated work, with a fine square east end, and a fine eight-light window, with a rose of large diameter in the head under a pointed arch. Five miles further on is the village of Tudy, which contains probably the most interesting twelfth-century church in Brittany. The vault of rubble work is semicircular, with only transverse ribs of a square section, resting on shafts which rise from the floor. The caps to the circular columns of the apse are very curious examples of early carvings, and are of great height in proportion to the shaft. At Ile Tudy there is a late church of an uninteresting character, but there are several good wayside crosses.

At Quimperlé there are two churches, one (that of St. Croix) having an eleventh century crypt recently rebuilt on the original plan of a Greek cross, in the Romanesque style. The other, whose spire crowns the top of a hill, is mostly of late Decorated work; the north porch has an open stone screen across the outer arch.

At Vannes there is a church with a fine Decorated tower, and which possesses some good Decorated and Renaissance work. Rennes, mainly destroyed by fire in the eighteenth century, is modern and uninteresting. The cathedral is of inferior Renaissance work, and the only old church Mr. Fulford saw was that of St. Melaine, which is mainly of the eleventh and thirteenth centuries. On his way home, Mr. Fulford passed through the exceedingly picturesque old town of Vitré, the streets of which abound in timber houses, with arcades, &c., and the extensive remains of the town walls, gates, &c., with their conical roofs, all unite to make this town assume a complete Mediæval aspect. The hand of the so-called modern improver is at work, however, demolishing many of the old houses to widen the streets, and erecting tasteless and painfully neat structures in their place. The Church of Notre Dame has a little early work in one of the chapels, but it is mostly Flamboyant, in some parts approaching the Renaissance. The spire is good, only it is too crowded with exaggerated crockets, as are also the windows, buttresses, &c. In the Lady Chapel are some curious enamels of Scripture subjects on copper, and on the outside of aisle is a good stone pulpit. Opposite the church is a large Renaissance house, with some good details. The gateway to the castle, of fourteenth century work, was being well restored.

At Fougères, one of the frontier towns of Brittany, are two late churches, mostly Flamboyant, and not very interesting in character. The remains of the castle are very extensive and in a good state of preservation. The castle dates from the beginning of the twelfth century, with later additions. It is built of rubble work with bands of ashlar. Near the castle is the church of St. Sulpice, which is of late Flamboyant work, surmounted with a slate spire.

On his way homeward Mr. Fulford visited Mont St. Michel, taking train to Moidrey, the nearest railway station. After a dusty drive of 5½ miles, which took 1½ hour to accomplish, he entered under two gateways, the inner one of which is flanked by two cannons for firing stone shot, taken from the English in 1429. The third gateway, with a good pointed arch and portcullis, brings the visitor into full view of the quaint old street. Turning to the right up some steps access is gained to the ramparts, whence ascent is obtained to the entrance gateway of the convent, with its two circular angle turrets. Ascending more steps to the second door, admittance is obtained to the hall on payment of a franc, which goes towards the restoration of the buildings. The monastic buildings called the "Marvel" consist of three storeys, the lowest, the crypts, called "Les Montgomeries," above this the splendid "Hall of the Chevaliers," and over this the refectory; and above all the beautiful cloisters, built between 1220 and 1228. The church has a Romanesque nave and Flamboyant choir. In the town are several of the old houses in which used to lodge the pilgrims to the Mount.

At Pont Orson, the church is a fine building, with a Romanesque nave without aisles, with immense buttresses. Over the intersection is a good saddle-back tower of transitional work. The west end is mainly of first pointed work, which is also the style of the choir. At the east end of the north aisle are some curious sculptures of the sixteenth century of various scripture subjects. Some of the old houses remain, and they are similar to those at Dol, with arcades of granite columns.

At Dol (whence Mr. Fulford took train for St. Malo, and thence returned to Southampton by boat) the Hôtel Notre Dame has a late external gallery at the back worth seeing. In conclusion Mr. Fulford expressed the hope that these notes would induce some of his hearers to explore this little visited part of France during the coming summer. It was full of interest to the architect, and those who were satisfied with plain fare could live for about half the cost they would incur in any of the more frequented continental resorts.

The CHAIRMAN considered that Mr. Fulford's Paper on the Architecture of Brittany possessed peculiar interest from the fact of its connection with that of our own country. Brittany was, in fact, a distinct country from France—distinct in its language as well as its architecture. Mr. Fulford had touched on a good many points, and he doubted whether it was worth while to recapitulate them; but it would be interesting to trace a connection between Brittany and our own country. Brittany possessed some wonderful Druidical remains, as he (Mr. Birch) had witnessed on a visit last summer to Carnac. The stones, however, were not so large as those at Stonehenge, although the area of the ground covered by the remains was much greater. A little village called Montfort had been mentioned by Mr. Fulford, recalling the fact that the great family of the De Montfort's took

their name from it, the English Earl of Leicester belonging to the same family.

Mr. E. C. ROBINS expressed the pleasure he had experienced in listening to the Paper, and he believed some gentlemen were present who were familiar with the places described by Mr. Fulford.

Mr. BLASHILL said that his knowledge of Brittany was very limited, but he retained very pleasing impressions of Mont St. Michel, of which many good photographs had been exhibited. He approved of the idea of illustrating the lecture with the aid of a magic lantern, and hoped the experiment would be repeated. The views which had been exhibited were calculated to inspire them with envy at the delightful tour Mr. Fulford had enjoyed, and which had afforded him the opportunity of studying the peculiarities in the architecture of a very charming country. He moved that the best thanks of the meeting be accorded to Mr. Fulford for his very able lecture, accompanied, as it had been, by a series of very effective illustrations.

Mr. FERRIS seconded the motion.

Mr. R. PHENÉ SPIERS said that his knowledge of the architecture of Brittany was confined to what he had just seen, and to drawings and photographs which he had seen from time to time. He was still convinced that a great deal more resemblance existed between the architecture of Brittany and Normandy than between that of Brittany and England. The spire of St. Pol de Leon was almost the same in its general outlines and principles of treatment as the spire of St. Pierre de Caen, and reminded him of St. Vincent de Rouen. It seemed to him that any resemblance which might exist between English work and that of Brittany had been filtered, as it were, through Normandy—the resemblance being attributable to the close proximity of the two countries. An admirable means had been devised of showing the photographs and sketches, and he thought Mr. Fulford had been quite right in interspersing his lecture with a few remarks respecting the customs and costumes of the people which served to divest the subject of a kind of sameness that was inseparable from the repetition of descriptive details.

Mr. CLARKSON observed that Mr. Fulford had come expressly from Exeter to deliver this lecture, and a friend (though he would not give his name) had suggested that it was an "Exeter-ordinary" lecture. He had hoped that Mr. Brewer, who was well acquainted with Brittany, would have been present, for it would be remembered that in a Paper which he read a few years ago at the Institute, he covered some part of the ground over which Mr. Fulford had travelled. In describing the beauties of Morlaix Mr. Brewer had mentioned that the viaduct was one of the few engineering works that were not hideous, and the view Mr. Fulford had exhibited of the viaduct fully justified that conclusion. The ample collection of sketches on the walls, and Mr. Fulford's drawings on glass, proved that he was an accomplished artist; and he also knew how to describe architecture to architects.

The motion having been put from the chair, and carried by acclamation, Mr. Fulford, in acknowledging the vote, said that out of respect to his audience, he had confined himself as far as possible to a bare statement as to the architecture of Brittany, and had otherwise curtailed the lecture.

PARLIAMENTARY PROCEEDINGS.

MONDAY, FEBRUARY 8.

The Artisans' Dwellings Bill.

In the House of Commons on Monday Mr. CROSS introduced his Bill for facilitating the Improvement of the Dwellings of the Working Classes in large Towns, a full abstract of which appears in another column. It would proceed, he said, entirely on sanitary grounds, and would have strict regard to these two canons—that the State ought not to provide any class of the community with the necessities of life, nor to enable bodies of any kind to supply those necessities at a lower rate than the market price. To illustrate the dreadful evils of overcrowding, Mr. Cross quoted largely from the death-rate statistics of London, Liverpool, and Manchester, and related at length what has been done to grapple with them in Liverpool, Edinburgh, and Glasgow in the way of demolitions and new buildings. The Bill for the present is confined to the metropolis and large towns; it is to be worked by the City Corporation and the Board of Works in London, and by the Town Councils in other towns, and is to be set in motion by the medical officers. When a medical officer reports that a district is unhealthy by reason of overcrowding, the Local Authority will pass a resolution that an Improvement Scheme should be prepared. This is to be accompanied by maps, plans, &c. All plans relating to the metropolis will be laid before the Home Secretary, and in other cases before the President of the Local Government Board, who, after due inquiries, will embody them in a Provisional Order, so that the expense of a Private Bill will be saved. There are provisions for settling the basis of valuation and the mode of arbitration, and the Bill provides that when the sites are acquired the Local Authority shall not build unless after a certain time it is found impossible to induce private speculators to undertake the work.

Mr. KAY-SHUTTLWORTH, Sir S. WATERLOW, and Mr. WADDY spoke in general support of the Bill; and in answer to Colonel Mure, Mr. CROSS said that the Bill, as drawn, was confined to England, but it would be for the House to consider whether it should be extended to Scotland and Ireland. The second reading was fixed for next Monday.

Mr. BRUNN obtained leave to introduce a Bill to encourage the erection and improvement of dwellings for agricultural labourers in Ireland, and Mr. FORDYCE for one to facilitate the erection and improvement of labourers' cottages and farm buildings in Scotland.

TUESDAY, FEBRUARY 9.

Fires in the Metropolis.

In answer to Mr. Freshfield,

Sir J. HOGE said: The attention of the Metropolitan Board of Works has been directed to the question of providing hydrants for assisting in the

extinction of fires in the Metropolis. The matter is one which requires very careful consideration, and it is now being investigated by one of the Board's Committee.

The New Law Courts.

In reply to Mr. Freshfield,

LORD H. LENNOX said: Mr. Street's plans for the new Courts of Justice having been approved before there was any idea of making a change in the Judicature, no special apartment for the Supreme Appeal Court has, by that name, been included in the new buildings; but, by the courtesy of the Society of Lincoln's Inn, their old dining-hall has been made over to the Government. It has been suitably fitted by the Office of Works, and restored to its previous dimensions, and is now, I am informed, admirably adapted to be the First Court of Appeal.

The Lifts at the Foreign Office.

Mr. H. WOLFF asked the Under-Secretary for Foreign Affairs whether any accident besides that of December 2, which resulted in the death of Charles Coxhead, had arisen in consequence of defective arrangements at the lifts in the Foreign Office, and whether the coroner's recommendations as to the alteration in the lifts had been complied with.

Mr. BOVREK.—The attention of Her Majesty's Government has been called to the melancholy accident which occurred on December 2. I am informed that an accident of a far less serious character occurred in connection with the lifts some time ago. I am not aware of any other casualty having happened. Since the death of Coxhead alterations have been made in the arrangements connected with the lifts, and the Foreign Office is still in communication with the Office of Works with a view of making those arrangements entirely secure.

Regent's Park.

In answer to Sir T. Chambers,

LORD H. LENNOX said: Owing to the uncertainty that has prevailed as to who is responsible for the cost of rebuilding the bridge in the Regent's Park which was destroyed by the recent explosion, no steps have yet been taken in that direction. But, being very sensible of the great inconvenience arising to the public from the present state of matters, I will undertake personally that there shall be no further delay in the restoration of the bridge than is absolutely necessary.

The Lighting, Paving, and Cleansing of the Metropolis.

Sir WILLIAM FRASER moved a resolution declaring "that in the opinion of this House the condition of the Metropolis as regards lighting, paving, and cleansing calls for legislation." In support of it, he dwelt on the infinite varieties of paving to be met with in the Metropolis, and on the wretched supply of gas in the street-lamps, and drew an animated picture of the anomalies of our Local Government. The vestries, he admitted, did their best, but bad was the best, and having examined the various schemes of reform suggested, without pronouncing decidedly for any, he spoke strongly in favour of bringing public opinion to bear on the proceedings of all the governing bodies.

Sir J. HOGE defended the vestries, and related numerous instances of the energy displayed by them in cleaning and lighting the Metropolis. In St. Pancras the lighting cost 15,428*l.*; in St. George's, Hanover Square, 11,498*l.*; and in St. Marylebone, 17,368*l.*; while the paving in Marylebone cost 17,399*l.*; in St. George's, Hanover Square, 20,281*l.*; and in St. Pancras, 38,947*l.* The vestries were, therefore, alive to their duties, and felt that they were bound to spend large sums of money in this way, but they could not go on increasing the rates indefinitely. The rates even now ranged from 3*s.* 6*d.* up to 6*s.* or 7*s.* in some cases; and he often had to vote with a sad heart when appeals were made by poor people, ill able to bear the rates. One or two facts respecting the expenditure for cleansing the streets would, perhaps, astonish the House. In 1874 this item amounted in Marylebone to 12,262*l.*, and 129 men were employed daily. In St. George's, Hanover Square, it cost 9,242*l.*, with 80 or 90 men employed; and in Westminster it cost 7,600*l.* During the past 17 or 18 years the parish of St. Mary, Islington, had laid down 541,363 square yards of paving at a cost of 105,278*l.*, and had put up 1,246 lamps. The parish of St. Leonard's, Shoreditch, had laid down 501,645 square yards of paving at a cost of 119,094*l.*, and had put up 70 lamps. The parish of Bethnal Green had laid down 364,029 square yards of paving at a cost of 104,000*l.* The parish of Kensington had laid down 149,000 yards of paving at a cost of 113,963*l.* All the districts had not sent in returns, but the returns that had been furnished showed that in parts of the Metropolis 4,871,501 square yards of paving had been laid down at a cost of 2,079,880*l.*, and that 14,440 lamps had been put up during the period to which he had referred. Under these circumstances he thought that the much-abused vestries and district boards of the Metropolis were entitled to some little credit at all events for what they had done in this direction.

Mr. DENISON animadverted on the disgraceful condition of the London streets on Sundays.

Mr. CROSS deferred his remarks on the general subject until the future opportunity which is to occur on Lord Elcho's Bill, but expressed a decided opinion that by the more extended use of scientific appliances for cleansing and paving the metropolis, much saving of expense might be insured.

The motion was then withdrawn.

Mr. WHALLEY obtained leave to bring in a Bill for affording facilities for vesting in the Metropolitan Board of Works open spaces, gardens, and squares within the metropolitan district for the exercise and recreation of the public; and to empower owners or joint owners, or a majority thereof, to enter into arrangements with the Metropolitan Board of Works in relation thereto.

CONTRACTORS' RISKS: BLACKFRIARS BRIDGE.

ON Monday the case, so important to contractors, of *Thorn v. The Mayor and Corporation of London*, was heard in the Court of Error before Mr. Justice Blackburn, Mr. Justice Mellor, Mr. Justice Lush, Mr. Justice Brett, Mr. Justice Grove, Mr. Justice Denman, and Mr. Justice Archibald.

This case arose out of the rebuilding of Blackfriars Bridge, and raised a question with the contractor of very great and general importance as to contracts for doing of work. The question, shortly stated, was this:—Whether if in consequence of some mistake in the plans and specifications the work cannot be done in the mode prescribed, and great additional expense and delay are incurred, the employers are liable to make compensation to the contractor. The question had arisen thus. The Corporation were desirous of entering into a contract for pulling down the old bridge and substituting a new one. They employed an engineer to prepare plans and specifications, which he prepared accordingly. The usual method of laying the foundations of a bridge is by means of cofferdams, large structures of timber, the construction of which, by means of enormous scaffolding and piles sunk into the river, causes great obstruction to the navigation. The Corporation being Conservators of the Thames, were desirous of preventing such obstruction, and with that view their engineer, Mr. Cubitt, who prepared the plans and specifications, prescribed that the piers should be constructed by means of "caissons," or iron cases, sunk into the river one upon another, and then pumped dry. It was admitted that this was a new and untried method, and it was adopted on the authority of Mr. Cubitt. The plaintiff accepted the tender and became the contractor, and the deed of contract bound him to make the bridge in the manner thus prescribed, the specifications being thus referred to, though not actually incorporated in the deed. The contract provided that if extra work was occasioned without fault of the contractor the Corporation should pay him for it, subject, however, to the decision of the engineer, who upon every point was made the sole and absolute arbiter. The plaintiff commenced the work, attempting to lay the foundations of the piers by means of iron caissons, the dimensions and materials of which were set out in the specifications. After having sunk and completed four tiers of caissons the water was pumped out, and it was found that the two upper tiers were insufficient to keep out the tidal water, and that in consequence it was necessary to remove them, in which case the building operations could only be continued when the tide permitted. The consequence was that much more time was necessary to complete the work than would otherwise have been required, and the plaintiff was prevented from entering into other contracts, and in a variety of ways was put to much greater expense than if the work could have been continued and completed in the time described by the specifications. In fact, he was delayed two years, and although he had been paid for making the piers, he had not, he said, been paid for the extra delay and expense thus caused, and for that he claimed compensation in this action. His cause of action was that the specifications were insufficient and delusive, and, in truth, that it was impossible to execute the work in the manner pointed out, and that the Corporation impliedly contracted that the work could be carried on in the mode and with the materials specified. The question was whether this implied warranty or undertaking could be implied or presumed in the absence of any express stipulation about it. The Court of Exchequer gave judgment in favour of the Corporation, on the ground that there was no such presumed or implied undertaking.* The contractor now appealed.

Mr. Benjamin, Q.C. (with him Mr. Littler, Q.C., and Mr. Batten) argued for the appellant; the plaintiff; Mr. Giffard, Q.C., and Mr. Thesiger, Q.C., were for the Corporation.

After arguments by Mr. BENJAMIN and Mr. GIFFARD, which occupied all Monday,

The Court took time to consider their judgment, and on Tuesday

Mr. Justice BLACKBURN delivered a judgment in favour of the Corporation, in which as to its conclusion and result the other judges concurred, though as to some of its grounds and reasons it will be seen one of them differed. The learned judge pointed out that the work was to be done in the manner specified in the specifications, and that was no doubt different from the usual method, which was by means of cofferdams. They, however, would have taken up a great deal of room in the river, and the Corporation, desirous of avoiding any obstruction to the navigation which could be avoided, adopted, on the advice of their engineer, the new method of caissons. The failure of that method, no doubt, was not the fault of the contractor, and there was also no doubt that it caused him additional expense and delay. For the extra work, indeed, the engineer had allowed the contractor payment which he had received; but the claim now was for further compensation for the additional delay and expense, and the question arises whether there was an implied undertaking by the Corporation as to the sufficiency or practicability of the new method prescribed to the contractor so as to render them liable for such compensation. He thought not, for he looked upon the method of laying the foundations of the piers by means of caissons instead of cofferdams as like the scaffolding in the building of a house, and it was no part of the work itself to be done. If the case was that it was impracticable to do the work itself, that is, to build the bridge in the mode prescribed, though he did not say that even that would have made a difference, he should have been disposed to give the case more consideration than he thought it now required. He saw no ground whatever for implying in such a case any warranty or undertaking that the method of caissons was practicable. And for that reason he thought the action was not maintainable, and that the judgment must be affirmed.

Mr. Justice MELLOR concurred generally in the conclusion and in the reasons assigned for it. He saw no ground for implying the supposed undertaking on the part of the Corporation that the method of caissons was practicable. The parties who tendered inspected the plans and specifications at the office of the engineer, and were quite able to form a judgment

as to their practicability. It was true that a competent engineer might have discovered that the method proposed was not practicable, but even if so, then the contractors need not have accepted the contract. It was not because the employer prepares and proposes plans and specifications for the work to be executed that the contractor has a right to profess to trust blindly to their practicability. Why should he do so? The contractor was quite competent to form a judgment on the subject, and if he did not think the plans proposed practicable he should either not accept the contract or should demand an indemnity. Here, however, he accepted the contract without asking any indemnity, and now he asked the Court to imply an indemnity in his favour, but it would be very dangerous to do so, for no one would then know how he stood under a contract, nor what was his liability. No doubt the contractor, without any fault on his part, had incurred considerable loss, but there was no ground for implying an undertaking on the part of the Corporation to indemnify him.

Mr. Justice LUSH also concurred—on the short ground that the contract showed no intention to give any such undertaking, and that there were no grounds for implying it.

Mr. Justice BRETT concurred in the conclusion arrived at by the rest of the Court, though he differed as to some of the steps by which it had been reached. He could not adopt the view of his brother Blackburn that the substance or subject-matter of the contract was merely the making of the bridge, and that the using the caissons to make the foundations of the piers was merely the mode of doing the work like the scaffolding of a building; and not a part of the work to be done. If it were merely like the scaffolding of a building it would hardly be described in the plans and specifications, and prescribed in the contract. Here, on the contrary, the use of caissons was one of the principal parts of the contract, and, in his view, the contract was to do successive things in a certain order, the making of the caissons being the first thing to be done. That being so, he thought the mistake of the engineer, who was the agent of the Corporation in the matter, was their mistake, and that the effect of it was to prevent the whole work from being carried out according to the contract. In his opinion, therefore, the contractor might have refused to proceed under the contract, when he found that the mistake of the Corporation had rendered it impracticable. But the present question was whether, having proceeded under the contract in a different way, which caused him expense and delay, he was entitled to compensation, not only for the extra work (which had been allowed), but for the expense and delay thus caused. That required an implied undertaking on the part of the employers that the plans presented were practicable, and an implied undertaking if they were not so to indemnify the contractor. That was a most important question; it was impossible to imagine one more so, with reference to contracts duly entered into for work. But, in his view, an undertaking could only be implied when it could be presumed to have been in the minds of both parties. The question was whether, under such circumstances, the contractor was entitled to assume that the plans were practicable; or whether he ought not himself to have made inquiries as to their practicability. It might be argued with some force that he was warranted in relying on their practicability; but it was impossible to assume this as a conclusion of law, and there were arguments in favour of a contrary conclusion. The contractor must be supposed to make his own calculations as to what was profitable; must he not also be supposed to make his own calculations as to what was practicable? Both parties in such cases must be supposed to make their calculations; and if the contractor thought the work could not be done in the manner proposed, he ought not to accept it. If he does not inquire, or if he chooses to run the risk, then he must take the consequences. If he thinks the thing doubtful he ought to demand an indemnity; and if he does not do so he cannot sue on the ground of an implied undertaking and an implied indemnity.

Mr. Justice GROVE concurred in the conclusion arrived at, on the ground that it was impossible to imply such an undertaking, and that there would be insuperable practicable difficulties in attempting to do so.

Judgment affirmed in favour of the Corporation.

TOUGHENED GLASS.

THE Times says:—It has long been known that when glass is heated to redness, and kept at that temperature for a considerable time, its physical properties are changed in a remarkable manner. Thus it becomes opaque or feebly translucent, much harder and tougher, and somewhat like porcelain in appearance. This change is termed "devitrification," and is caused by the conversion of the glass into a confusedly crystalline mass, of which sections are beautiful objects when seen with a microscope in polarized light. The subject was investigated by the renowned French philosopher, Réaumur, early in the last century; and to objects of devitrified glass the name of Réaumur's porcelain is usually applied. Such objects are exhibited in the Museum of Practical Geology, in Jermyn Street. It has been reserved for another Frenchman, a gentleman farmer, to discover the singular fact that when glass is heated to redness and then cooled or annealed in oil its toughness is greatly increased, or, what is equivalent, its fragility is greatly diminished, while its transparency remains the same. Thus, suppose a rectangular pane of glass placed flatwise and supported on two of its opposite edges to break when a given weight is allowed to fall upon it—say from the height of two feet—it would, after having been toughened in the manner above stated, resist the same weight falling upon it from the height of 6 ft. or 9 ft. It is strange that, although glass has been manufactured during the last 2,000 years, yet such a simple and probably very important fact as this should only recently have been found out, and equally strange that the discoverer should be a gentleman farmer. The foregoing information on the new process of toughening glass is given on the authority of Mr. C. W. Siemens, F.R.S., who is well known in connection with telegraphy and the furnace which bears his name. His brother, an eminent glass-maker at Dresden, has tried the process, and pronounced it to be "certain and unquestionable."

* See ARCHITECT, May 9, 1874.

THE HATCHAM MANOR ESTATE.

THE Hatcham Manor Estate, which exceeds 200 acres in extent, is now being laid out for building by the Haberdashers' Company, to whom it belongs. The estate lies on the south side of Queen's Road and New Cross Road, and the principal approach to it is by a new road, 60 feet in width, which is entered at New Cross Gate. The land is undulating, and is exceptionally favourably situated for the high class mansions and other residences which are to be erected upon it. The principal road, which is carried through the centre of the estate, gradually rises from the entrance at New Cross Gate, and is continued in a southerly direction for nearly half a mile, when an unusually high elevation is attained, with a commanding panoramic view of the Metropolis in every direction. On the south, Nunhead (with the cemetery), Brockley, Forest Hill, Sydenham, and the Crystal Palace are seen in the distance, and on the east side the neighbourhoods of Lewisham, Blackheath, Shooter's Hill, and Greenwich, with the hospital, and the shipping in the Thames, whilst the neighbourhoods of Dulwich, Streatham, Brixton, and Camberwell are equally conspicuous objects on the west. The summit of this elevated position is well known as "Telegraph Hill." From this point the road is continued in the direction of the Crystal Palace and Blackheath branches of the London, Chatham & Dover Railway, sloping downwards, and crossing over those railways by bridges, in the valley below, where the railways skirt the boundary of the estate. Here there will be railway communication with the houses to be erected on the estate, and by continuation roads there will also be access to the country around Sydenham and the Crystal Palace. There will also be other roads diverging from either side, and intersecting the different portions of the estate. These roads leave the main road near the highest point of the ground just referred to. One of them is a circular road carried round the north-east part of the estate, and coming out into the New Cross Road nearly opposite the station of the London and Brighton Railway Company. Another road, sweeping in a south-easterly course, leads in the direction of Brockley. A third road on the west intersects, in circular form, a sloping portion of that side of the estate terminating in the main road not far from the New Cross Gate principal entrance. There are also other roads of a similar character.

Nothing but buildings of a superior class, including villas and high-class mansions, will be permitted to be erected on the estate; and the large area of the land will admit of sites for the erection of over a thousand of residences of this character. They will be leasehold, held for a period of 81 years, some portions of the ground being let at 6s. 6d. per foot, and others at 6s. 6d. A general architectural design has been agreed upon, and although the buildings will not be required to be strictly in accordance with it, the several elevations must be to a large extent uniform with it in character, and before being allowed to be erected, the designs for the buildings must receive the approval of the Haberdashers' Company.

On the north-east side of the estate, and near its highest point, a large reservoir has just been constructed by the Kent Waterworks Company, partly for the general accommodation of the inhabitants of the surrounding neighbourhood, but more especially in anticipation of the residences about to be erected on the estate, and in order the more readily to give their occupants a water supply. This reservoir, which has a capacity equal to 2,000,000 gallons of water, is covered over, and the turf above ornamentally planted.

Not far from it, on the same side of the road, and overlooking the surrounding country on all sides, the Haberdashers' Company are erecting two new school buildings, to be called "Aske's Hatcham Schools." These schools they have been required to build under the conditions of the new scheme of the Endowed School Commission for the management of Aske's Borton Charity, originally founded by Robert Aske, a member of the Haberdashers' Company, and of which the Haberdashers' Company are the governors and managers. One will contain accommodation for 300 boys and the other for 200 girls, and both will be high-class. There will be also residences for the head-master and head-mistress and assistant teachers. A church will shortly be erected, to cost about 12,000*l*.

The estate is being laid out, and the new schools erected, under the superintendence of Mr. W. Snook, of Duke Street, London Bridge, architect and surveyor to the Haberdashers' Company.

THE MICHAEL ANGELO ANNIVERSARY.

A COMMITTEE has been formed at Florence, under the presidency of Signor Peruzzi, to celebrate the four hundredth anniversary of the birth of Michael Angelo, and one of their first steps was to open a public subscription throughout Italy and to put themselves in communication with the various academies of fine arts and other institutions connected with painting. Several artists have offered to decorate at their own expense Michael Angelo's house in the Via Ghibellina with frescoes, and their offer has been readily accepted. Commander Gotti submitted to the committee a geometrical design of the wooden model of the dome of St. Peter's which Michael Angelo had prepared, and which was not altogether followed by the architects who undertook the work left unfinished at his death. This model will now be shown to the public for the first time. The committee will meet once a month, and they will ask the municipal council of Caprese to place a marble slab over the door of the house in which the great artist was born.

The Howard Medal of the Statistical Society will be awarded in November 1875, for an essay on "The state of the dwellings of the poor in the rural districts of England, with special regard to the improvements that have been made since the middle of the eighteenth century, and their influence on the health and morals of the inmates." The essays are to be sent in on or before June 30 next. Further particulars or explanations may be obtained from the assistant-secretary, at the rooms of the Statistical Society, Somerset House Terrace, King's College, Strand, W.C.

REVIEWS.

PROTECTION FROM FIRE AND THIEVES, INCLUDING THE CONSTRUCTION OF LOCKS, SAFES, STRONG-ROOMS AND FIREPROOF BUILDINGS, &c. By George Hayter Chubb, A.I.C.E. Longmans, Green & Co.

IF a book on the construction of locks and safes was required there is no one better qualified to compile it than Mr. Chubb; and that critic must have not a little hardihood who might be disposed to set up his own opinions against those of such an authority. In any branch of practice like what forms the subject of the present treatise, it is of the utmost advantage to have an expert's knowledge to assist us. Moreover, Mr. Chubb has been able to supplement his own wide experience by aid from such officials as the Commissioners of Police, the Superintendent of the Metropolitan Fire Brigade, &c. His little book is, therefore, deserving of attention, not only by those whose business it is to make houses secure, but by everyone who possesses property which is likely to tempt thieves or to be in risk of fire. As might be expected, he has much to say about the locks, safes, strong-rooms and other protectives with which the name of his firm is associated, but he deals with his rivals fairly enough in his descriptions of their patents. The book treats of the construction of locks and keys; the devices of burglars; the various ways in which safes have been constructed to be proof against thieves and fire; the precautions to be taken in purchasing secondhand safes; the construction of strong-rooms; fireproof buildings; fire and its dangers; and the extinction of fire. An appendix gives designs and descriptions of a fireproof warehouse, by Mr. Elijah Poole, and a list of the numerous patents for locks and keys, and safes which have been taken out during the past century.

From time to time people read of successful burglaries, but it is only when a great number of cases are brought together, as in this book, and regarded as it were from a scientific standpoint, that it is possible to realise the marvellous patience, resources, and ingenuity of the organised bands of thieves which infest the metropolis and our larger towns. There seems to be a competition between them and inventors in its way not unlike that which is between the makers of cannon and iron plates. The utmost skill on one side seems to be met by some equivalent on the other. With fair play the locksmiths and safe-makers might be able to baffle the burglars, but the carelessness of the owners and care-takers of property too often helps the latter. It will be scarcely credited, for example, that each year in the City of London the police find between 2,000 and 3,000 premises left open or otherwise insecure at night; in 1873 the number was 2,957. Then keys are left about, and, as Mr. Chubb says, no lock whatever will guard against culpable negligence with regard to its key, although a good lock cannot have a key made to fit it unless there is another key to copy from, or the lock itself is broken open. Too often the character of the locks of houses is sufficient to tempt thieves. Thousands are daily turned out of a similar pattern, one key answering for all, and, according to Mr. Chubb's computation, three-fourths of the houses in London might be entered by false keys if it were not for the vigilance of the police. In fact, no means of protection is sufficient against robbery without care. There are safes and safes, but the best of the class will not give security if there is not watchfulness over it and its keys.

In the chapter on Safes Mr. Chubb describes their new patent safe, which has a T iron frame, so strong as not to be bent except by machinery, and a tube filled with a substance that will, on the approach of fire, cause steam to be projected into the interior. A few particulars from the chapter on the capacity of safes will have interest. The Bank of England reckons that 79 cubic inches is required to stow away 1,000*l*. of gold coin in bags. A cubic foot will contain no less than 21,875*l*. To allow a margin of 80 cubic inches for every 1,000*l*. in bags of sovereigns may be taken. For silver coin the Bank reckoning is that 187 cubic inches will hold 100*l*., and a cubic foot 1,235*l*. in bags. It may then be said that 160 cubic inches will contain 100*l*. in silver coin.

The qualities which Mr. Chubb considers requisite to make safes proof against ordinary fires are that they are made altogether of wrought iron, with outer plates not less than a quarter of an inch thick, and with a space around of 3 to 4 inches, filled with an evaporating non-conducting composition. Where extra precaution has to be taken the safe ought to be kept in a brick, stone, or iron strong-room. After a safe has sustained a fire it ought not to be depended on without being examined and reproofed by some competent person, as its resisting properties are certain to be damaged if not destroyed. If good safes are wanted, it is absolutely necessary to go to makers with reputation. A genuine second-hand safe, by a good maker, it appears, is seldom obtained, the majority of those sold as "second-hand" being made on purpose, and constructed of the lightest and poorest materials. Mr. Chubb tells a good story of a safe of this class being put up at an auction, in Scotland, as one of the best kind, and during the sale it suddenly fell to the ground, was broken by the fall, and the fireproof material tumbled out, and was found to be fresh garden turf, with live worms in it!

Mr. Chubb recommends that purchasers should insist that the weight of any safe they purchase be stamped upon it, and he gives the following table of approximate weights for some of the sizes:—

	Inches wide.	Inches high.	Inches deep.		Owt.
A safe	22	17	16	should weigh about	3
"	44	26	24	"	11
"	48	39	25	"	16 (folding doors).
"	60	39	26	"	23
"	84	48	30	"	42

The safes should weigh not less than these amounts; and when fixed with steel, they will be very much heavier.

The chapter on strong-rooms recommends that they should be constructed in the basement, if possible, where the walls do not adjoin other buildings. There ought to be no drain or pipe under the surface, as the floor is one of the most important parts of such a structure, the strong-

rooms of several banks having been entered through the floor. Mr. Chubb says, that for one of these floors to be secure it should be formed of half-inch boiler plates rebated and fastened together, laid upon a good thickness of brick and cement. Stone is not advisable, and ought not to be used except for the lintel and sill of the doorway. The walls must be at least 14 inches thick, of brick in cement, with boiler plate lining inside wall and roof like floor. The roof should be of brick arching, and strong enough to withstand the weight of a great portion of the building if it happened to fall. If a girder has to be used to carry part of the arching, it must be of wrought iron encased in plaster or cement. The door is best arranged as a fire-resisting door and gate joined together, and there ought to be no other direct opening, either for light or air. It is even preferable to have no gas light within, but, instead, to have a bracket outside which can be swung through the opening whenever necessary.

We need not follow Mr. Chubb through the remaining chapters on fire-proof buildings and fires. From our brief abstract of the first half of Mr. Chubb's book it will be seen how practicable is the information, and the remainder is no less important to the public in general.

HINTS TO YOUNG ARCHITECTS, TOGETHER WITH A MODEL SPECIFICATION.
By George Wightwick, Architect. New Edition, revised and enlarged by G. Huskisson Guillaume, Architect. Lockwood & Co.

A PUPIL entering an architect's office in the ordinary way finds always much to perplex him. What he has to learn generally appears to be illimitable; he can discover no clue to it, and as many of the words he hears are technical terms, they sound to him almost like a strange language. He finds that there is no longer the systematic instruction he was accustomed to receive at school or college, and he hardly knows where to look for guidance. If he has self-reliance, all these drawbacks will not prevent his progress; but it too often happens that the pupil loses precious time at first. Special treatises are of little avail, as each requires so long to master. The "Hints to Young Architects," by the late Mr. Wightwick, to some extent meets the needs of young pupils. The book was written in a familiar style, and it referred to a great many points of practice. Here and there it touched upon things which any one might know, as the suggestions about the plate on the office door and the like. But the book had fallen behind the times, and a new edition was needed. Mr. Guillaume has brought it up to the requirements of the present, and his additions are indeed of more value than the original matter. We have seldom met with a better example of what can be done by an editor who is painstaking. Mr. Guillaume may be thought to have introduced his writings too often, and he occupies over much space for such a book in explaining the merits of some "ventilating trough junction," which he has invented, but we can overlook all this for the sake of what has been done so well. The "Hints to Young Architects" has been included in Weale's series and will now be found an acquisition to pupils, and a copy ought to be considered as necessary a purchase as a box of instruments. If we remember rightly the price of the improved edition is not above one-half that of the former.

LEGAL.

ARCHITECTS' AND BUILDERS' LIABILITIES.

At the Lord Mayor's Court, on Tuesday last, before Sir Thomas Chambers, Q.C., M.P., and a common jury, the case of *Boucneau v. Notly* was heard. Mr. MACRAE MOIR (the counsel for the plaintiff) said that his client was a marble merchant, and the defendant was an architect. The latter had ordered from the plaintiff four stone moulded chimney-pieces, and stated that they were to be delivered to a certain person living near Staines. The charge for the same was £13 10s., and that was the sum which the plaintiff sought to recover. Mr. Moir then read several letters which showed that the goods were not for the use of the plaintiff but for a Mr. Pither, a builder. In one of them also the defendant promised payment to the plaintiff in case Mr. Pither was not prompt in settlement. The goods were sent to Mr. Pither, but it was only acting in accordance with the instructions of the defendant. The plaintiff had nothing to do with Mr. Pither, and had not even seen him.

The plaintiff, Mr. BOUCNEAU, said he carried on business in Wormwood Street, Fitzroy Square, at which place the defendant called on the 7th of July last, and selected some patterns of chimney-pieces, requesting that an estimate of them might be sent him. A clerk of the defendant's subsequently called upon the plaintiff with the tracings of the mantel, and having seen the patterns, asked the plaintiff to write to Mr. Pither for an order for the chimney-pieces, but being in communication with the defendant, the plaintiff refused to accede to the request of the clerk. The goods had been supplied at the defendant's order, and the witness said he knew nothing whatever of the builder. It was to the defendant that he throughout the transaction looked for payment. After the present action was brought Mr. Pither had sent a cheque. In answer to his lordship, the witness said that it was a very common occurrence for an architect to give an order for articles required for a house, and to give the name of his client, but the builder was never looked to for payment. The plaintiff was in the habit of obtaining payment from the owner of the house in such cases.

His LORDSHIP pointed out that from the evidence of the correspondence and the witness it appeared that Mr. Pither, the builder, required the goods in question, had received them, and was debited with them by the plaintiff, and that the defendant had merely acted as an agent in the transaction. It did not signify in the least that the plaintiff had not seen Mr. Pither. Mr. MOIR urged that the defendant was the person who gave the order, and to him the plaintiff had looked for payment.

After some argument between his Lordship and the counsel for the plaintiff, Mr. Moir accepted a nonsuit.

Correspondence

The "Oxford Arms," Warwick Lane.

SIR,—The "Oxford Arms," in Warwick Lane, Paternoster Row, well known as probably the oldest, and certainly the most picturesque, of the old London Inns still in existence, being advertised for sale by auction, a few gentlemen have combined in order to have photographs of it taken. It is intended to take about four views, at a charge to the subscribers at cost price, which will not exceed 10s. 6d. per set. Should any of your readers desire to have copies I shall be happy to receive their names.

Your obedient servant,

Long Ditton, S.W., Feb. 10.

ALFRED MARKS.

General

Sir Francis Grant, president of the Royal Academy, Viscount Hardinge, and Mr. Henry William Eaton, M.P., have been appointed trustees to carry out the wishes of the late Sir Francis Chantrey, who bequeathed a sum of money, amounting to about 100,000*l.*, for the purchase of pictures and works of art for the nation.

The Picture Gallery belonging to Prince Torlonia is to be sold.

The First Exhibition of Paintings in Oil, by modern artists at Brighton, will close at the public gallery on Saturday, March 6. The exhibition has been very successful, upwards of 45,000 persons having visited it on the free days since its opening, and a large number of pictures have been sold, in addition to commissions given for others.

Sir S. L. A. Simmonds, R.E., K.C.B., will, it is understood, succeed Sir F. E. Chapman, R.E., K.C.B., as Inspector-General of Fortifications and Inspector of Works.

Mr. Woolner, R.A., has modelled a group representing an incident in Coleridge's schoolboy life, in which the figures of Fanshawe Middleton (afterwards Bishop of Calcutta) and Charles Lamb are introduced, as a challenge prize to be held each year by that "Ward" in Christ's Hospital which has most distinguished itself in the work of the school during the previous year.

Mr. Edward M. Barry, R.A., has joined the board of directors of the Grand Hotel Co. (Limited), Brighton.

Sir Andrew Clarke, R.E., has been appointed to the new office of Director of Public Works in India. He was formerly Director of Works of the Navy, and Surveyor-General and Chief Commissioner of Crown Lands in Victoria.

Mr. Samuel Bough was, on Wednesday, elected to the full honours of the Royal Scottish Academy, in the room of Mr. W. Smellie Watson, portrait painter, deceased. Mr. Bough, who is well known as a landscape and water-colour painter, was selected by a majority. The other Associate nominated was Mr. John Smart, landscape painter.

The Election of Surveyor to the Vestry of Chelsea came off on Monday last, there being over thirty candidates, and resulted in the election of Mr. G. H. Stayton, C.E., Surveyor to the Corporation of Ryde, Isle of Wight. The salary is 500*l.* per annum.

The Statue of the late Prince Consort, for the memorial in Hyde Park, it is expected, will be cast in the course of a few days.

A Paper by Mr. Charles Gatliff on "Improved Dwellings, their Beneficial Effect on Health and Morals, with Suggestions for their Extension," will be read before the Statistical Society on Tuesday next.

A Meeting has been held at Eversley, at which it has been determined, as a memorial to the late Rector, Canon Kingsley, to enlarge and improve the parish church, so long the scene of his ministrations, and to erect a chapel in the outlying hamlet of Bramshill, where Mr. Kingsley has for some years held a service in a small schoolroom.

The Public Museum of Columbus has been completed, and an archaeological survey and examination of the ancient remains scattered throughout the island is to be shortly commenced. On this subject the Governor says he trusts that they will before long be in a position to publish a "Corpus Inscriptionum Zeilanicarum," which, while throwing light on the ancient history, religion, and customs of Ceylon, will be of the greatest value to students of philology.

The Members of St. Columba's Episcopal Congregation, Crief, have resolved to proceed immediately with an additional wing to the building, the erection of a vestry and a new spire of above 100 feet in height, and other improvements.

A Public Meeting in aid of the proposed Railway Servants' Orphanage, at Derby, which is to be erected at a cost of 40,000*l.*, for the accommodation of a thousand orphan children, was held in the Victoria Hall, Leeds, on Wednesday, when a resolution was passed in favour of the project.

The Works of the Banbury and Cheltenham Railway were commenced on Wednesday last.

The Directors of the London and Blackwall Railway Company propose to expend 5,000*l.* on the improvement of the stations on the line.

The London School Board are about to borrow a further sum of 74,000*l.* from the Public Works Loan Commissioners, making in all 1,204,925*l.*, independently of 50,000*l.* borrowed from the Metropolitan Board of Works.

The Government, it is rumoured, have determined to erect a Naval College on the Raleigh Estate, at Dartmouth, at a cost of 400,000*l.*

The Masons of Kirkcaldy and district have agreed unanimously to ask a further advance of $\frac{1}{2}$ d. per hour on their wages, which will, should the masters concede to their request, make their wages 8d. per hour.

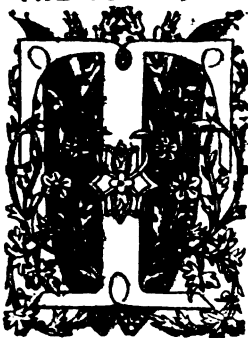
The Belgian Government have purchased the Ancient Flemish Tapestry, which was to be sold in Antwerp (See *Architect*, p. 38 ante). It will be deposited for public exhibition at the Port de Hal, Brussels.

The Bristol Town Council have resolved to build two extra wings to the City Lunatic Asylum, at a cost of 13,000*l.*

The Theatre Royal, Edinburgh, was burnt down on Saturday last. This is the third time a theatre on the site was destroyed, involving danger each time to the surrounding neighbourhood.

The Architect.

THE TEMPLE OF DIANA OF THE EPHESIANS.



THE recent explorations of Mr. WOOD in the vicinity of Ephesus and his discovery of the entire plan and proportions of the great Temple of Diana have already taken their place amongst the most honourable enterprises of the age. The story of his labours, however, and of his success, is not only one which bears being twice told, but, coming from the lips of the explorer himself, becomes a thing of increased interest every time it is repeated, owing to his manifestation of that peculiar reticence which has been part alike of the literary and of the personal character of so many of the most distinguished adventurers throughout all ages. Mr. WOOD, in short, in making so little of himself, seems sometimes to make little of his subject, and it is almost in spite of him that its wonders are brought to light. The description, accordingly, which he submitted to the Royal Institute of Architects on Monday night, although during its progress almost suggestive of meagreness, came to be in its result inspiring in the highest degree; so that, whilst in the course of the discussion one speaker was found expressing a certain kind of sympathy with the supposed regrets of the lecturer that he should have so little to describe, others with equal sincerity were constrained to come to his rescue from the very appearance of discouragement by pointing out that the tangible results of his eleven years' labour, if in one sense seemingly inadequate to his own expectations, were in another all that could have been hoped, if not indeed almost all that is capable of being realised. It is with more than ordinary interest, therefore, that we direct the attention of our readers to our report of Mr. WOOD's lecture and of the observations which appropriately followed it; and we may safely suggest that on every succeeding occasion upon which the eminent discoverer may be called upon to recount once more the narrative of his work it will be equally easy for the audience to explore the explorer if they will but exercise a little skill in drawing him out.

The process by which Mr. WOOD effected his discovery was well described by Sir GILBERT SCOTT as one deserving of the very name of scientific induction. His calculations may not have been so elaborate, nor the subject of his search so remote, as when the astronomers of these advanced days, by measuring the balances and counterbalances of the stars, accomplish at length the detection, at a point fixed by the immutable logic of COCKER, of some unknown world; but nevertheless, considering that all his lines of identification lay at the respectable depth of twenty feet beneath the surface of the country, and actually below the level of the water, so that he had to feel his way by *sinking wells* instead of digging the mere holes of ordinary research, it may certainly be admitted to have been no commonplace task that he achieved when at length he succeeded in bringing into view the long sought floor of Diana's magnificent shrine and such fragments as yet remained of its hundred columns and its costly ornament.

We need not recount the particulars of the process, but, in few words, it amounted to this. For years he had been on the wrong scent. At length his instincts of common sense fastened upon one particular incident amongst those supplied by the remarks of the ancient historians. Certain precious articles were carried in periodical procession, it was said, from the Temple to the city and back, passing in at a certain gate and out at a certain other. If, therefore, these gates could be discovered, the roads which passed through them might be discovered too; and if such roads were found to converge, the point of convergence must be the Temple. So the gates were laboriously searched for until they were found. Then the roads were found. Then the convergence was patiently followed out. The focus was at length pitched upon; a well was dug; and behold the floor of the Temple! It was a mile or so away from all hitherto suspected spots, but had it been twenty miles we may say it would have only called forth so much more perseverance. At any rate "on the last day of the year 1869" the explorer laid open, with a joy which he can never hope to feel again, an unmistakable portion of the sacred platform, and from that time the development of the entire edifice was but a matter of a little more time, and, unfortunately, of a good deal more money.

In due course of events the "hundred columns" that were recorded to have surrounded the cella which contained "the image that came down from Jupiter" were every one counted, neither more nor less. Their gorgeous array stood in a parallelogram of apparently nearly two English acres of ground. Their size was 6 feet in diameter, giving, according to received proportions, 51 feet for their height. Some of their voluted Ionic capitals were found, and a few other fragments of characteristic architectural ornamentation. Then there appeared this most unique feature of design: the columns being built each in nine or ten courses or solid blocks, the first of these above the mouldings of the base was found to have been in certain instances

sculptured round the circumference of nearly 20 feet with human figures of nearly full size constituting in every case a special work of art of the highest pretension. The podium upon which this grand edifice had stood was also of an exceptional kind; instead of anything like the three simple but stately steps of the Parthenon, there were fourteen more ordinary steps all around, of the dimensions of about 8 English inches by 19, making in all a height of between 9 and 10 feet; and, as the platform which formed the summit extended some considerable way beyond the mere circuit of the peristyle, the spreading ascent on all sides covered a still more imposing area. Upon these steps and the platform above, and under the prodigious colonnades of the temple itself, it is easy to see that a vast number of persons, whether as humble supplicants or as excited fanatics, would still show small enough, however loudly proclaiming "Great is Diana of the Ephesians!"

When Mr. WOOD had thus found his way to the floor of the actual historical "Temple of the great Goddess Diana whom all Asia and the world worshippeth" he soon discovered that this was but one of at least three successive edifices which throughout the ages had stood on the same spot. There were three floors in fact discernible, one under another; and the temple whose remains were now brought up from a depth of two and twenty feet under ground Mr. WOOD denominates therefore "the last temple," the others being cautiously spoken of as "the last but one" and "the last but two;" how many previous ones may have stood there being a question not to be solved. "The last," at any rate, he identifies with the period of ALEXANDER THE GREAT, and "the last but two" apparently with that of PERICLES. This certainly leaves ample room and verge enough in still earlier times for still other edifices on the same sacred ground.

The explorations of Mr. WOOD, thus more than usually successful, were abandoned in March 1874 owing to the withdrawal of the State aid previously accorded to this earnest antiquary. The marbles actually recovered are in the British Museum. Mr. WOOD's personal work as he left it wears the aspect of a vast pit, 500 feet by 300, and 22 feet deep, very much filled with water, and still containing, as he thinks, a sufficient amount of classic wreck and ruin to render it matter of deep regret—and so also thought the meeting at large—that the English Government should withhold the comparatively small amount of about 3,000*l.* which, as we understood, would suffice to search out the whole of the remaining mystery. Surely we may at least say this—that when England finds herself possessed at once of so unique an opportunity and so earnest a servant, it is not 3,000*l.* that ought to stand in the way of her arriving at the honour of a final result which all the world would so highly value.

As regards the architectural style of the temple it was suggested that it exhibits more than we are accustomed to of what was somewhat vaguely called Ionian or Asiatic taste. Other critics, however, seemed to think there was but little in this idea. No doubt the peculiar stylobate or podium of common steps with its great platform at the top, the widened inter-columniations in the middle of the end façades, the sculptured shafts, and some of the details of moulded work, are quite enough to show an inferior character of design to that of preceding epochs, but the probability would be that the previous temples whose floors alone remain had been of the more correct mode, rather than that all alike had exhibited the characteristics of the latest in date by reason of Asiatic influence. Thirty years ago this question would have been argued out with much interest and much critical skill; but now it is to be feared there are few if any who care either to accept the trouble or to cultivate the knowledge.

The figure of the goddess which Mr. WOOD included amongst his illustrations, and which he eventually explained was nothing more authentic than a copy of a print in the Museum at Naples, is not altogether unworthy of investigation. That it is barbarous beyond description is not enough to say. It is no better than a fifth-rate Hindoo idol or a Mexican teraphim. One speaker thought it might have been a literal copy of the famous erotite spoken of in scripture as "the image that fell down from Jupiter;" but even in that supposition it is scarcely to be credited that keen Ionian Greeks would have retained such an object of worship without at least improving it out of its own primitive character a little more than this. Early Greek figures, bad as they were, never came to so very mean a condition; and although it may perhaps be admitted that certain Assyrian works are little if any better, yet the "Asiatic taste" which would have been sufficient to preserve so wretched an authenticity is an influence which in any kind of Greek art we should be loth to acknowledge possible.

We congratulate the Institute upon the promptitude with which the meeting resolved upon a course at once decided and sensible, namely, to memorialise Government in favour of a restoration of the grant in aid of Mr. WOOD's most noble enterprise. With Mr. DISRAELI at the head of affairs, surely an Asian mystery of such high interest as belongs to this ought not to go begging in vain for a small allowance of money wherewith to pursue it to a solution. Nor is Sir STAFFORD NORTHCOLE, the Cerberus for the time being who watches the purse strings of the nation, such a man as to deny the country the honour of assisting so great a venture. Even Mr. LOWE, in his most economical mood, would be too much of the scholar to be deaf to such an appeal if properly urged. We trust therefore that the Institute will see the safety of being for once sufficiently bold; and if even a formal deputation were to solicit the favour of an interview with the Premier we see little reason to think it would be denied.

THE GREAT FESTA AT SIENA.

FROM A CORRESPONDENT.

TWICE in the year the quiet old town of Siena wakes up out of sleep and goes wild with excitement; once in July, and secondly, and most uproariously, in August, to celebrate the Assumption of the MADONNA. It was our fortune last summer to be staying on the outskirts of the town during the three days' Festa kept upon this latter occasion; indeed, studious life among the ancient buildings, the saintly art and the strange scenery of Siena was sadly thrown out by the persistent holiday attractions and ubiquitous crowds of pleasure seekers.

Siena is built up and down the declivities of a sandstone ridge among the Tuscan Apennines; beyond the tortuous line of walls that still encircles her bounds, spreads an undulating sea of clay hills, streaked with woods of cypress and oak, each crowned by its little town or villa or grey convent walls and church. Thus, wave beyond wave the ground falls back to the blue distance where mountain range and rolling cloud mingle in undefinable form and play of shifting colour. On the eve of the great festival, beneath a purple sky solemn with golden stars, the fires in honour of the MADONNA broke out in swift succession on these heights, each as it were sending its signal to the others; and so for a brief half hour the glimmering bonfires seemed to turn the shadowy land into imitative response to the star-fretted sky above.

There had been certain rehearsals of the horse-races, and solemn veepers in the Duomo during the afternoon, ushering in the singular combination of religious exercises and a passion for races which characterises the Siennese honour of the MADONNA's Assumption. Indeed, the town for a week had been alternately betting on its favourite horse or saying prayers in the churches. By the time Saturday, the 15th, arrived the excitement was at fever heat, and when the great brazen bell of the Palazzo Pubblico rang out at five o'clock the town was already astir and humming with voices. This bell only sounds for war or great rejoicing; when its solemn summons swings out, the people in the country round know that in Siena there is either trouble or high festival, and come streaming in at the open gates, or else from their lower ground look up at the distant towers of the city and wonder what befalls. During the last Italian rising this bell rang all day the townsfolk tell us. Not all its clamour kept the great thunder clouds away that Saturday morning. They came up gradually from the distant mountains, blotting out one height after another, and then swirled round Siena and filled it with wind and rushing water, while the thunder growled and the lightning flashed intermittently. But towards half-past-ten, in a break of the storm, we struggled up to the cathedral, falling in with an old peasant woman en route, who tells us that the people are cursing the ill-luck of the bad weather in a way that will certainly bring a judgment on their heads.

The three great western doors of the cathedral are wide open, the wondrous pavement inlaid with stories by the hand of BECCAFUMI and other artists of the old time, is divested of its wooden covering under the dome, and shines in spaces of polished marble. The banners of the city wards that contest for the prize in the races droop and wave their gay silken folds upon the pillars of the nave. Up in the singing-gallery the musicians are tuning hoarsely, and the crowd gathers by degrees. Presently the canons, in their red capes, walk up to the choir in procession, with a banner, and the people throng thicker. A motley crowd!—white-bearded old men with big umbrellas, peasant girls in enormous straw hats flapping over the fierce, dark eyes and swarthy cheeks, a scattering of handsome women in black veils, strangers from Florence, townsfolk in smart clothes of every colour but the right one (the modern Italian of the towns has the worst taste), elegant ladies, stately ecclesiastics, and simple country priests! There is a walking to and fro; little bells ring at side chapels, and the crowd surges this way and that, kneeling and standing anyhow and anywhere. But now the great procession comes pacing up the wide nave, archbishop in cloth of gold, silver shoes, jewelled mitre, and crozier in hand, followed by canons in embroidered copes and white mitres. The orchestra bursts into a stirring measure, and the choir sing out bravely. The archbishop is set into his throne, and remains like an imposing image for the next two hours, stately and immovable, to be stared at, and the service goes on, with a good deal of fine music in the modern style, alternating between solemn and pathetic strains and airy measures suited to a ballroom. The peasant people crowd up to the choir; they put their arms on the backs of the canons' seats, and peer into the splendour: tiny children kneel on the steps, play tricks with one another, or say their prayers, with a deliciously solemn aping of their elders. The ladies alternate between chat and elegant devotion, and the swells walk about and look through their glasses. Still there is a great deal of devotion every now and then, and the whole scene is splendid, with the lights and gorgeous priests in the choir, and the various crowd gathered within the rhythmic lines of marble cupola and arch and stately pillar, rich in harmonious prodigality of gold and colour.

The service is over at last, the archbishop gives his blessing and departs, and the crowd streams out at the western doors, to find the blessed sunshine has conquered the clouds, and the air blows fresh and cool under a blue sky.

The next attraction is the "Benevolent Bazaar," held in the

Palazzo Patrizi; but though the stalls of rubbish are presided over by charming ladies, and white-gloved exquisites conduct the raffles, and the various little devices for getting money out of your pocket, the bazaar does not draw. But after dinner, when every place where eating can be conducted is choked with the hungry, the crowd runs all one way into the Piazza to see the Tombola. The lottery is a simple affair, though it takes seven people to manage it; in the judges' balcony five—one to turn the machine, a boy to pick out the rolls, a spectacled official to open the roll and read the number, a man to blow a trumpet, and yet another to call out the number in a loud baritone voice, which is echoed by two more, stationed in pink and white striped boxes in the Piazza, who hang out a placard of the number at the same time. One false "tombola" was called, and the crowd greeted the white flag which showed the caller mistaken by a ripple of laughter all over the Piazza, and then a little hooting and hissing soon calmed down. The prize was gained by a poor man, to the great delight of the people. After the Tombola came some minor races, and in the evening the Lizza, or public garden, near the fortress, was lit with Chinese lamps, bands played, and people thronged thick as bees on the walks, or drove round and round in their finest clothes till after dark. Sunday we had another procession in the cathedral, but no grand service, only a quiet litany, said kneeling before the altar by the archbishop and his train; then the crowd was allowed free access to the Piccolomini Library, to see the illuminated choral books spread open on the desks, and the frescos of PINTURICCHIO on the walls, and in the sacristy all the splendid vestments were laid out, and many precious appurtenances of the altar, and the people streamed in and out, and looked, and never touched or hurt a thing. All the museums of the town were freely open during the three days of the festival, and on this Sunday the picture gallery was thronged; the attraction, it is to be feared, however, lay more in drawings by pupils of the Academy which were hung up below the old masters in the great room, and the exhibition of wood carvings, &c., than in the pictures. But the great event of this and of all the days was the *Palo alla Tonda* at six o'clock in the evening. The horses that were to run had been more or less on public exhibition since Friday; sometimes they might be met in full trappings led by their jockeys, followed by an admiring crowd; sometimes they were practising rehearsals on the Piazza; sometimes they were rushing along the semicircular street. Then the representatives of the seventeen city *contrade* were for ever performing their evolutions in front of official residences, and gathering subscriptions for the horse and rider of their ward. Two men, dressed in mediæval costume of the brightest colours, attended by trumpeters and pages, would go through wonderful tricks with the great silk banners they carried, furling and unfurling, passing them over and under arms and legs, and finally throwing them into the air and catching them again—all with much skill and grace: a performance to be followed always by a *douceur* from the official residence.

The great Piazza del Campo, of Siena, is perhaps the most remarkable in the world. It lies on a steep slope, a huge semicircle of some thousand feet in circumference, around which range the picturesque palaces and houses, of every height and form. At the lower end rises grandly the great Palazzo Pubblico, built in the thirteenth century by the brothers AGNOLO and AGOSTINO, of Siena, a noble Mediæval pile of solemn red brick, its lofty Torre della Mangia running up into the sky a giddy height above.

Grim and spare of ornament, the old palace is eloquent of the days when Siena was stern in its love of liberty, and this was the Palazzo della Repubblica. In the centre of the Campo, on the upper slope, is the Fonte Gaja, now, alas! but a reproduction of the white wonder of marble sculpture designed by JACOPO DELLA QUERCIA. For the races the whole Piazza is covered thick with sand over the rough pavement, and the course is round the centre, which is enclosed and holds the standing crowd. Beneath the houses, rough sort of amphitheatre benches are thrown up, and let out at so much a seat, while all available balconies and windows are fitted up with seats and cushions.

When we entered the Piazza it seemed already full, and with difficulty we obtained places on the closely packed raised seats; my companion found himself sitting back into the lap of a jolly peasant woman, while I beneath him had two fat men upon my feet: the same sort of arrangement may be said to have prevailed all round the Piazza, and still the crowd grew and grew. Every window is filled with spectators, and the centre of the Campo is one surging sea of people, the enormous hats of the peasant women floating picturequely on the surface. Balconies and windows are gay with coloured draperies and flags, one block of buildings looks bright with the purple and red uniforms of the young seminarists, another is devoted to the *sordi-muti*, who are talking on their fingers with true Italian vivacity. The warm sun streams athwart the old tower of the Palazzo Pubblico, and soft evening clouds float over the blue sky. Presently the police, mounted on noble horses, clear the course: fugitives are captured and enticed into seats, the prices at this extreme moment falling 50 per cent. Now a band marches past in full blow of trumpet and pipe. Then come the men and boys representing the various *contrade* or wards, dressed out in brilliant costumes "del medio evo," as the programme declares, the banner-bearers going through all their evolutions as they pass; now another band precedes the Carroccio, full of pretty boys, and flags of all

Italian states; so they all go slowly round the Piazza, the great banners flaunting and waving round the course. Now pace by the horses, trapped brightly with glittering metal and gay saddle cloths, each preceded by the banner-bearers of its ward, and led by pages and jockeys in the distinctive colours. The last pony is immediately followed by an uproarious band, and the poor creature (they are miserable-looking beasts, all of them!) is maddened by the noise almost beyond control. Each group as it again reaches the Palazzo occupies the raised seats outside, which are soon filled with the bright costumes and the three bands in uniform. The Carroccio is drawn up next the seats, and the race horses and jockeys pass behind a palisade. In the silent pause of expectation which ensues, the grim old palace, the vast motley crowd, the quaint balconies full of faces, the mediæval dresses, all harmonise under the golden light of evening into such a scene of strange, old world, picturesque beauty that one seems transported back into the heart of ancient Siena in her pride of power and splendour. One moment more and the race-horses, mounted by their gay jockeys, come trotting up to the rope in front of the judges' balcony. Down goes the cord and the start is made with a desperate plunge; off rush the horses, jockeys urging and beating, and the crowd bursts into one roar for the favourites: "Bravo Bruco;" "Tartuca! Tartuca!" "O Nicchio! bravo Nicchio!" Three times round the course, madder and madder; one jockey is thrown, a neck and neck struggle at the last, and the white horse wins. All is over; the winner is led before the judges, the banners flourished triumphantly over him, and the crowd jostles and presses up to embrace horse and rider.

The Piazza clears in a wonderfully short space of time, for this crowd of sixty thousand Italians is good tempered and kindly; there is no screaming, no roughness. They are managed easily by the courteous and skilful mounted police. In no other country than Italy could such a crowd have been so quickly and safely dispersed.

So ended the prettiest and most characteristic pageant of the Festa. After this everything seemed flat; the "in mangurazione del Tivoli nel Forte S. Barbara," with an "illuminazione sparzosa a gaz e a cera," puppet shows, waxworks, "Mimica gimnastica," and all the rest of it; even the race of nine horses next day, in a "corso alla Romana." The holiday folk might draw out their curiosity for one or twodays more, but we had had enough. The Palio alla Tonda in the Piazza del Campo was worth all the rest put together; so with this we will close our sketch of the Siena Festa.

OUR RAMBLER IN BATH.

(Concluded from page 77.)

FEW of our English cities are seen to advantage from the lines of railroad by which they are reached. A railway traveller, who may have only to pass through such cities as Coventry, or through even the English metropolis itself, might repeat the process all his life, and yet have seen in the end vastly little of the architectural "lions" of either. Bath is very differently circumstanced. The Great Western Railway from London sweeps, with a serpentine curve, along the entire east side of the city suburbs; and, as the traveller nears the station, he beholds the famous city of King Bladud, lying, as it were, in an amphitheatre, enclosed by the elevated crescent formed by the railway.

By far the most notable object in this startling panorama is the new Catholic Church of St. John the Evangelist, crowning the steep western bank of the river Avon, to be presently crossed by the Great Western Railway. There are few edifices in the kingdom more favourably situated than is this very beautiful church, with its fine tower and spire, upwards of 200 feet in height, rising from a group of gables, always a favourable base for a steeple. What the railway traveller sees is the apsidal end of the chancel, with the south transept and presbytery; but, if he should alight, and view the edifice from the north and the west, he will find that, from every point of the compass, the church will be seen to great advantage. It has been built from the designs of Mr. CHARLES HANSOM, of Clifton, and consists of a wide nave and aisles, western tower, western and eastern transepts, a chancel, three chapels, and a large presbytery. The entire structure, carried out with unstinted expenditure, and no little skill on the part of its architect, merits a somewhat lengthened notice. The style of architecture is Decorated Gothic, worked out with pretty close adhesion to ancient details, though in general arrangement, or plan, there are some startling departures from old English examples. Looking at the edifice from the ample pavement of the South Parade we have a fine view of the western tower rising, not isolated, as in ancient examples, but from between the two western transepts. Its fine proportions, however, are fortunately too massive to suffer by the contact of these unusual features, almost flush with its western face. The tower retains its square form for a considerable height, comprising an unusually lofty bell-chamber, and, above this, assuming an octangular form, disengages itself very effectively from bold corner pinnacles, and finishes with an embattled parapet. At this point, from a rich base of crocketed pinnacles, rises the spire, admirably proportioned to the tower, and crowned with a very tall finial, finished with a metal cross-vane and weathercock. Most of our modern steeples are too insignificant for their churches; but not so this steeple of St. John's at Bath. We turn from a long look at it, and see the church, with its western transepts or annexes, north

porch, gabled aisle, and north transept proper, overlapping the apsidal chancel. There is nothing specially noteworthy about the external details of the church; they seem, if anything, a little overdone. The main approaches are through the north porch, and an unusually large handsome doorway in the western tower. Entering by the former one finds the interior of the edifice quite in keeping (in point of ornate architecture) with the exterior, but displaying, as we shall presently show, some hardly commendable peculiarities. The two western transepts are seen to be groined with stone, the north one (by the porch) very appropriately used as the baptistery; but the south one, similarly ceiled, is fitted up as a beautiful chapel at the extreme south-west corner of the edifice, having its altar, &c., built against the west wall. Two open stone arches, filled in respectively with a low parclose, or rail, expose the north side of this chapel and its altar to the worshippers entering by the *quasi* porch, or vestibule, at foot of the tower, itself parted off from the nave by a handsome screen of stone, sustaining the front of the singing gallery. From this point of the plan proceeds eastward the nave, divided from its aisles by north and south arcades of stone, borne on polished marble shafts with carved stone capitals. Above this is the clerestory, ending, at each of its two eastern extremities, with a pair of blank clerestory windows, revealing the fact that the arcades have passed right athwart each of the transepts. We remember to have seen the same peculiarity of plan in Mr. MEDLAND TAYLOR's Stowell Memorial Church, at Manchester. It might well have been spared in this fine church at Bath; especially as, in its case, the ground-floor area of these two transepts is still further curtailed by being blocked up with stone confessionals, above which, half-hidden in useless recesses, the large painted wheel windows of each transept assert themselves, by way of reminder there are two *bona fide* transepts in existence. The chancel and its two lateral chapels are all groined in stone, and exhibit very beautiful details. The pulpit, very successfully designed and admirably carved, stands against one of the south pillars of the nave. "The Stations of the Cross," an indispensable adjunct to every Roman Catholic church, are not, as we usually see them in such churches, mere pictures stuck about the walls, as an afterthought; but occur as carvings in high relief in coupled panels, incorporated with the architectural lines of the church with capital effect. The church is fitted up with well-designed open benches, richly moulded. Gabled aisles are never very easy to finish internally; and the roofs of this really fine church—quite unequal to its masonic details—form no exception to the rule.

In England a fashionable place of resort usually contains some handsome places of worship belonging to the Nonconformists. In Bath there is a singular dearth of them; nor did we observe a solitary indication of any present effort to raise any considerable edifices of the class. The only new one we happened to notice was a small Baptist chapel, in Bladud Buildings, designed by Messrs. WILSON & WILLCOX, of Bath. It is a stone-fronted edifice of "Geometrical Decorated" character, designed with considerable originality; but exhibiting, by the flatness of its details, the very restricted depth of its site. The same architects have had a better opportunity for the display of their power of design in the construction of the new Anglican church of St. Paul, at the junction of Chapel Row with the Bristol Road. Here, though the structure is confined within a single-span roof behind a gable, terminating in a circular apse, the able treatment of the subject compensates for the apparent insignificance of the edifice. The style is Early Pointed, with much of a French character about the design. All the architectural features, especially the boldly-designed side buttresses, are remarkably commendable. The nave and chancel are comprised within one level roof, the latter being distinguished by the variety of its window-tracery (enhanced by the use of red stone shafts) and the addition of an ornamental metal cresting to its ridge.

St. Andrew's, in Crescent Lane, is another new church, lately erected from the designs of Sir G. GILBERT SCOTT, R.A. It is an Early Pointed edifice of ample proportions, occupying an acute-angled site, within whose narrow end stands a very massive western tower, as yet unfinished. The church itself consists of a spacious nave and chancel, with north and south aisles, respectively enclosed within span roofs, covered with very small, closely laid slates of a greyish-green colour. The aisle windows are lofty triplets of lancet lights, comprised within an enclosing arch, with their spandrels filled in with sunk quatrefoils. The porch is groined with stone; the nave arcade borne on piers alternately single and clustered, the roofs framed with tie beams, and king-posts, with trussed and curved rafters. The tower, at present capped with a temporary roof, is evidently intended (by the massiveness and simplicity of its buttresses, windows, and other features) to be carried up to a considerable height. The contractor for the work, apparently very substantial in its execution, is Mr. BLADWELL.

There is yet another new work to be noticed; and that is the enlargement of the Church of St. John the Baptist, at Bathwick, just now being completed, from the designs of Mr. ARTHUR BLOMFIELD, M.A. The original church, a small, but exceedingly commendable structure, was built from the designs of Mr. C. E. GLIES, and seems to have consisted of an aisleless nave and chancel, with north porch, within an exquisitely-designed tower and spire; the external masonry worked in alternate bands of smooth and rough picked stone, and the details very beautifully carried out. Standing within a pretty church-yard, the tiny edifice must have been an object of singular beauty; but, to judge from the magnitude of

Mr. BLONFIELD's additional south aisle, new chancel, and transeptal chapel, the congregation must have altogether outgrown the edifice. The additions just made are, like the original structure, Early Pointed in style; but, save the retention of the smooth and rough stone bands, the work of the two architects is wholly dissimilar. The original nave and chancel, as such, are ignored; and, in lieu of them, Mr. BLONFIELD has erected a spacious new nave and chancel under one span roof, converting the old nave into a north aisle, and its chancel into a north chapel; the new nave being lit by a clerestory on its north side; and on its south side, towards the city, by a series of lofty three-light windows, somewhat French in character and severe in detail. The mode in which the side walls of the new chancel have been carried eastward of the old one, by setting back the side windows of the former and canting off its angles, is both ingenious and effective. The interior of the church is remarkably impressive. The chancel, whose only external indication is an ornate cresting of the roof-ridge, is within absolutely cut off from the nave by a lofty rood-screen of stone, returned on its side. It is fitted up with handsome stalls; and has a gorgeous altar and reredos; while the nave is simply furnished with movable chairs, stained a dark walnut colour. Simple and severe as are all the details of this church, they have evidently been very carefully studied, and are all remarkable for their purity and good proportion. On the south side of the church some school and other buildings in connection with it are still in course of construction, apparently by the same architect.

SEVERITY IN CHURCH ARCHITECTURE.

By AN OCCASIONAL CORRESPONDENT.

(Continued from page 78.)

I MUST now say somewhat about the exterior. Its characteristics should be solidity and "breadth." To face a church entirely with ashlar externally is, I think, a mistake when no distinction in tint or in dressing is discernible between the plain surfaces of walls and the ornamental dressings. However slight the contrast may be, it becomes a sensible relief. Freestone is more emphasized, and tells better by being flanked with large surfaces of rougher walling, whereby greater picturesqueness and variety of effect is afforded.

I do not consider that simple moulded capitals with shafts of some semi-marble (roughly sanded and not polished) are inconsistent with true severity; while some kind of plain base-moulding is essential to the (apparent) architectural stability. The windows and doorways should be deeply recessed in good square reveals, in one, two, or more orders, boldly moulded or chamfered. I cannot agree with the affectation of plate tracery (as previously mentioned), nor with arches destitute of labels, though occasionally the latter may be omitted in order to give relief. Firmly developed horizontal lines, either formed by means of string-courses or bands of ashlar, much improve and bind the building together. Parapets are rather more dignified in appearance than overhanging eaves, but the latter are altogether more natural and generally preferable, being, moreover, less expensive. There can be no doubt that lead is the most effective roof covering, both in durability and in appearance; but its cost is the difficulty. Broseley tiles or Westmoreland slates are next best. But nothing could be more repugnant to Cistercian principles, or to any art principles whatever, than chess-board bizarre patterns apparently careering over the roofs in different tints. St. Saviour's Church, Eastbourne, for some curious reason (though designed by Mr. Street) has devices of this kind, as well as the new church of St. Bartholomew's, just erected at Brighton. As viewed from the railway station, the latter building seems really to mainly claim attention from its monstrous height and size and its variegated roof. Though there is a species of severity in both the exterior and interior, it is not my intention to make any further remarks on this large church. There is, however, much worthy of observation about it. Ridge crestings are rarely successful, and should as a rule only be tolerated over the chancel roof. With the central tower of probably an oblong plan, it is well to be content with a roof of moderate pitch without yearning for a spire, or any very lofty timber erection. In most cases the east end is better with a square termination, instead of that favourite arrangement—the circular or polygonal apse, for reasons I have mentioned in a former article (see *Architect*, April 4, 1874). As (from the previous description of a wide nave) there will be necessarily thick walls in our ideal church, few buttresses will be required, more particularly if tie-beams or tie-rods are honestly employed. So the buttresses can be restricted to the end gable walls, or to such positions as between the nave and chancel. It is not desirable to repeat the sacred form of the cross more than possible, because such a practice makes the cross appear like a mere ornament, no better than a hip-knob or finial. One to the east gable of the chancel and also of the nave, together with another to the tower (in the latter position it looks well to put a small cross over the cock, though an unusual custom) will generally be quite sufficient.

Here then is presented a rough notion of a severe church, which does not necessarily require anything more in the shape of adornment externally, unless, fortunately, it should obtain the valuable aid of figure sculpture. Two recent writers on Modern Church Architecture, Mr. Graham Jackson and Mr. J. T. Micklethwaite, F.S.A., have descanted on the connection of figure sculpture with architecture from different points of view, and I cannot but agree with the latter that our special art can stand its own very well without statues, though most grateful if they are happily added. The buildings of the Cistercian order are noble examples of passionless churches, i.e. they are beautiful now, and in their prime must have been so, though destitute of the representation of the human form divine. All the arguments, therefore, of the accomplished author of "Modern Gothic Architecture," who, differing from Mr. Micklethwaite, insists on figure sculpture as essential, will not convince. Where sculpture is used externally, it should be concentrated in the principal fronts, and about the main

entrances. Lack of funds, unluckily, generally puts a stop to any such adornments. There cannot be a more utter waste of money and labour than an attempt at mosaic or fresco, or variegated marble inlay outside a building, in senseless imitation of similar work in Italy. The effect in an English climate is sure to be crude, garish, and unreal.

I will just touch upon a few other details in the exterior. Crocketed and finial pinnacles or buttress heads are to be sparingly adopted, while crocketed spires are inconsistent with severity, and are suggestive of confectionary ware. A too lavish use of those scollop-like shell forms, found so often in early French work, is not to be commended. The fatal mistake of coarseness has frequently in England ruined that feature which, delicately treated, gives a charm to many a Normandy spire. A superabundance of spire-lights is another error, though this is certainly not prompted by Continental examples, but is a British characteristic.

I will now retrace my steps to the interior, and endeavour to find the means whereby a shell that ought in itself to be noble, but which is susceptible of being rendered still more majestic, may be further beautified and adorned. To pause before the doors is not unnatural, but with no intention of gazing on elaborate metalwork emanating from the useful hinges, for, at the present time, doors are more commonly hung in door-frames, and thus strong butt hinges are sufficient, while all the elegant flowing iron-work is nothing but a sham as far as regards its real connection with the hinges. The door itself might be made more ornamental by skillfully moulding the panels somewhat like the linen pattern in wainscoting, but without any fantastic imitation of the end of the folds. Tracery and cusping, which are more appropriate to windows and screens, are better avoided in doors.

On entering the church the pavement just inside the entrance is likely to be one of the first things to attract notice. It may be of various kinds of stone, well contrasted in colour, such as Aubigny, Hopton Wood, blue lias, Purbeck, Robin Hood, or Portland, or of tiles quietly arranged. The chess-board appearance so common in modern pavements should be avoided, as likewise the use of too many colours. Since the revival of the manufacture of encaustic tiles, and the facilities for procuring them of so many diverse tints, nearly all architects have been tempted to too much "fussiness" in the patterns. Pavements have attracted attention by their excessive brightness, while the roofs or ceilings have remained quite deficient in colour. In Mr. Burgess' design for the decoration of St. Paul's, the representation of harts drinking the water of life, has been justly criticised as too mediæval an idea for modern use, even within the sanctuary, for why should any figure subjects be trodden upon, though it be by priests engaged in the celebration of the highest act of Christian worship?

I do not see that all the arrangements should necessarily be strictly geometrical in order to carry out the idea of true severity. Many of the ancient tessellated mosaic Roman pavements are quiet and harmonious, with subdued colours, though the forms cannot be called geometrical. Flowing easy lines afford immense relief after a succession of strict combinations formed on the principle of the square, the triangle, or the circle, &c. It is not to be desired that the dogs, or cooing doves, or dragons found in mediæval tiles should be reproduced in modern work, though as regards the texture of the surfaces, the "ancient make" tiles of Mr. William Godwin are highly to be commended. Broad bands of marble or stone at intervals afford means for a charming contrast to the tiles, care being taken not to use too coarsely-grained a material. It is well not to be afraid of broad masses of tiles all of the same tint (red or buff are safe colours to be much repeated) which set off the glazed or pattern tiles next them, and give them more effect than if they had been surrounded with chessboard-like patterns. There is an enormous fund of design in pavements—they can be diversified almost as much as the devices of the kaleidoscope, but simplicity and an absence of too much intricacy in the arrangement are to be desired. A pavement which presents a puzzle that has to be deciphered, may show the ingenuity of the designer and amuse the man who finds out and unravels the knot, but is not a real architectural achievement. I have lingered thus long at the pavement, tempted by the fertility of the topic, but as I shall have occasion further on to allude to the chancel flooring, I will reserve further remarks.

And now for the material to be used in the walls of the church internally. In London and in other large cities where stone is not close at hand, brick seems most suitable. Where the cost of stone is heavy, and it is not the local product, but has to be carried from a great distance, the talk about the "nobler material" shows a want of common sense. No doubt a small church of simple plan and of inconsiderable height looks better if built in stone, but so soon as any grandeur or sublimity of proportion is attempted, even in brick, all sight or particular thought of the material is lost. I cannot do better than instance the fine churches designed by Mr. Brooks in the East of London, St. Columba's, Kingsland Road, or St. Chad's, Haggerstone, as examples of my meaning. The towering height of these noble buildings, surrounded by the "regulation" streets, almost squalid, of the outlying districts of London, and their entire difference in point of architectural detail from anything about them, quite take away any notion of the common material (as some call it) composed of baked clay of the earth, "earthy," that forms the main part of the fabric. St. Augustine's, Kilburn, St. Mary Magdalene's, Paddington, are examples of brick churches which look well, though with somewhat more genteel surrounding, stuccoed terraces and villas, though probably the brickwork concealed by this kind of "salve" is considerably poorer than the more honestly displayed brickwork in the purlieus of Shoreditch and Haggerstone. Christchurch, Lancaster Gate, is again an example of a fashionable church built of Bargate stone with freestone dressings, elaborate flowing traceried windows, pierced stone parapets, and a crocketed lofty spire. Yet with all this fuss, the effect is not half so good as the simpler churches of brick previously mentioned. No doubt the church at Lancaster Gate stands in some disadvantage, owing to the tall aristocratic houses that have sprung up around it since its erection, the advent of which its architects could not have been supposed to foresee. Still, a quieter treatment in a rough stone and ashlar would have made a more effective building.

Notwithstanding the extensive use of elaborate moulded brick in the Middle Ages, I know very few instances, in quite modern times, of its being adopted in London churches, St. James-the-Less, Westminster, being probably the most ornamental treatment in the metropolis. But this falls far short of such work as is to be seen at that fine old house, Sutton Place, near Guildford, or at Hampton Court. I think it well that this should be so, for elaborate mouldings in brick are fully as costly as those in masonry. In brick one does not look for intricate forms tortured out of clay, but rather for the piquancy of bold shadows caused by sharp square reveals, in one or more orders.

For the lining to the main surfaces to the interior of a church, brick neatly painted is, as a rule, far preferable to bare uncoloured plaster. In designing the projecting mouldings to a structure where the bricks are intended to show internally, about a $\frac{1}{2}$ -inch space should be allowed for the application of a skin of plaster, if there is any chance of its being afterwards applied as a vehicle for colouring. Although in mediæval times smooth ashlar and rough rubble work were indiscriminately coated with plaster when tempera colouring was put on, yet at the present age such a practice seems wasteful. When we have gone to the expense of procuring freestone, we do not like to immediately conceal it. The projection of the stone dressings of barely half an inch beyond the brickwork will not be objectionable if skilfully arranged. But of course if the plasterers cannot make their rough stucco of less thickness than $\frac{3}{4}$ -inch or one inch, the effect is bad. Unless wall looked after they are sure to prefer the thick coat instead of the thin skin, on account of its application being less troublesome. If the cost be not too great the whole interior may be lined with ashlar, or even with marble, and if properly managed, without abolishing the severity of the composition. Of course, no colour decoration to the ashlar would spread over the whole surface; in such a case the tinting must rather be like feathering or diapering, or in rich medallions surrounded by a little colouring. I do not think that such a treatment in marble as that of Siena Cathedral is consistent with my suggested principle of severity. The alternation of two different coloured marbles of strong contrasts, in parallel bands from top to bottom of the building, must tend much to distract the eye. Yet this very even distribution may not give such a fussy effect as the variety of colour in bands introduced at wider intervals. Subjects in sculpture recessed in panels in the wall, containing representations from the Old and New Testaments, might fitly be placed in the spandrels over the large open arcades, or perhaps inlay in different coloured marbles of rather sober hue. Sprawling patterns are to be avoided, whether of foliage or otherwise, as likewise all forms in violent contrast to the architectural features they adjoin. A preponderance of horizontal over vertical lines in the decoration is preferable; while oblique lines much repeated are dangerous to artistic effect. In all the geometrical forms simplicity should be the aim, without excessive intricacy. In those, however, not exactly geometrical, though scarcely flowing as in Moorish, Arabic, or Hindoo ornamentation, or in Runic work, there is much that is charming and beautiful, and worthy of imitation. Whereas some of the figures in late Geometrical or Early Flowing Decorated window tracery, abounding with thorny points and sharp carpentry-looking combinations, are not by any means beautiful or suggestive. By following such advice our imaginary typical church might still, in all sincerity, retain its characteristic of severity, notwithstanding its rich ornamentation.

In mosaic and tempera somewhat the same rules apply, though in painting more latitude may be permissible. Still the artist should always recollect that his endeavour is to fit the figures harmoniously into the architectural framing. In mosaic, when much employed, the architect should not be timid about plenty of gold—as a field or ground on which to work up his subjects. Is there anything meretricious or vulgar in the interior of St. Mark's, Venice, notwithstanding its lavish profusion of colour? I answer that in Italian art the effect is fully as severe as a Cistercian Abbey Church in England. Compare it with the late Renaissance churches at Florence and at Rome, redolent of the Jesuit spirit, where everything is overdone, meretricious and vulgar, even though the materials be real and precious, such as cipollino, oriental marble, or lapis lazuli. The church of the Gesù at Rome, considered the most elaborate of its style in that city, is certainly not severe. In so many of the late Renaissance churches of Italy, we see representations of female figures reclining in negligent attitudes over the spandrels of the arches, with their drapery disarranged, and their busts partly displayed, partly concealed. They are generally much too large and out of scale with the rest of the building. Such sculpture is utterly destructive of repose: how much the massiveness and grandeur of St. Peter's, and of St. John Lateran is marred by the huge statues of the Apostles (the work of Bernini or his followers) with their garments appearing as if shaken by the wind and every limb suggestive of restlessness. Compare this treatment with the sculpture of the west front of Wells Cathedral (I am aware that the comparison is made between very diverse things, but the principle holds good), where all the figures, while being quite the reverse of cold and lifeless, are yet majestic in their studied repose; there is no fluttering of the drapery, neither are their limbs in uneasy contortions—all is subservient to, and in harmony with, the architectural framework and surroundings. As specimens of knowledge of anatomy, and of good drawing, the Bernini School of course excel the handiwork of the English mediæval sculptors at Wells, but there can be no question as to which possessed the true principle of harmony with the architecture.

(To be continued.)

The Curator of the Edinburgh Botanic Gardens has communicated a Paper to the Botanical Society which suggests how various species of trees can be recognised in winter, when destitute of leaves, by the peculiarities of the outlines and general disposition of the branches. He commended the subject to the attention of landscape painters, in whose pictures, he remarked, it was often difficult to make out the different kinds of trees when these formed part of a winter scene.

EARLY CHRISTIAN ART.

MR. GAMBIER PARRY has delivered a lecture on Early Christian Art to the Gloucester School of Art. In the course of it he said:—To estimate early Christian art by its works, its three leading motives appear to have been—1, to record the faith of the departed; 2, to do honour in their memory to the places where they lay; and 3, to instruct the ignorant in the history and doctrines of the faith. During the first three centuries it was hidden from public view. It addressed itself to those who met in secret. Its subjects in sculpture and in painting were treated most conventionally, and bore an evident value rather in relation to what they typified than to what they represented. Great works of art could hardly be expected from Christians of the first century. The Jewish origin and associations of many, the newly-awakened conscience of the heathen convert just escaped from idolatry, would be enough to produce a prejudice against any embodiment of religious ideas in material forms. The unsettled state of their society, the danger of exhibiting any characteristics of their religion to the eyes of possible persecutors, their intense feeling of the sacredness of the origin and mysteries of their faith, and much else, combined to the same result; but as their courage increased their arts developed.

The countries to which we should first and naturally look for any signs and records of Early Christianity, viz., Palestine, Greece, and Asia Minor, have been so desolated by war and depopulated that scarcely any traces of the Early Christians are left there. Even in Antioch, their first and most important settlement, and in Jerusalem, all is lost except vague tradition. But elsewhere, as in Alexandria and in Italy, we find that with the first consecration of any property to religious uses, such for instance as burial-places, the first germs of art appear. The form they took was such as all the influences around them would have led us to expect. The religions of Paganism were written in their arts. The myths which the finest arts of Heathendom had embodied were allegories of the deepest significance, and had often had their origin in the purest motive. The sculpture and painting of antiquity, from the very nature of their subjects (except such as were devoted to national history and portraiture), were inspired in the choice and treatment of all their subjects by that deep traditional poetry which underlay the relation of the outer to the inner life of men, of material to mind. The eyes and thoughts of multitudes, brought up in such cities as Athens, Corinth, Ephesus, and Rome, had been from childhood habituated to the influences of the fine arts in their utmost perfection and power. The poetry, the allegory, the symbolism, which were the very life of those glorious works, then abounding all around them, were among the most powerful elements of an involuntary education for the inhabitants. The Christian converts had been as subject to those influences as any others. They had learnt to abhor the idolatry and to loathe the abuse of the arts, but it was impossible for them to change the habitual sentiment of allegory and symbol to which their minds had been inevitably trained. The doctrines and the rites of the new faith they had adopted were deeply figurative, and like the works of heathen sculpture to which they were accustomed, whatever was objective in them bore a recondite and spiritual interpretation. The earliest lessons of their faith had been conveyed in the allegorical form of parables. The miracles of its founder had been shown by Him, as in the case of the multiplication of the loaves and fishes, to possess a depth of meaning far beneath and beyond the external acts and objects themselves. The religious rites prescribed by Him were profoundly symbolical. The ancient Scriptures, to which he had referred his disciples for the foundation of all He did and taught, embodied all their historical and prophetic reference to the new faith in the forms and words of allegory, type, and symbol.

Such concurrent influences, so numerous, so attractive, and so powerful, could produce but one result. The early art among the Christians followed naturally in the course thus prepared for it. The necessity for secrecy confirmed the use of it. It was easy to maintain, when clothed in symbol, what, openly exhibited, would be death. The mysteries of their faith gained force and value even to themselves when thus used. The poetry of art could symbolise them with more subtlety and refinement than any language. Hence may in great degree be explained their early reconciliation to the employment of forms of art, and the subsequent and rapid development of its use without prejudice or fear.

If we look for the illustrations of it we must be contented with its ruins. At that period all art was in a failing condition. Great works of antiquity remained—but all practical art, in the second century of our era, had well nigh ceased, except as a subject of display and luxury. Originality existed no more. The old forms and styles alone remained. The artist's profession could scarcely be followed by the Christians, for works of heathen sympathies were impossible, and their opportunities among their own community afforded them no means of livelihood. They possessed churches in the principal cities; but so long as their religion was periodically tolerated and proscribed, and themselves protected and persecuted by turns, they found nothing around them sufficiently stable to encourage any development of a new art on Christian principles. That was reserved for other days. Those early disciples, content to bear their changing fortunes, were content also to take and to utilise what they found about them, and they have left the history, not merely of themselves but of their faith, in the lineaments of a faltering art, weak at its outset, and weaker in its progress, but embodying, to the best of their power and of their poor opportunities, the testimony of their fortitude, constancy, and devotion.

In the works of those early times—or rather in the spirit which inspired them—their poetry and their purpose was the germ out of which the religious art of Christendom has grown. The style and character of their design waned away beneath that general influence of change which then prevailed. They have never been revived. It is perhaps possible to trace a distant likeness to them in the "Classic" of a long subsequent age in the works of such men as Pinturicchio, Botticelli, Perugino, and Piero di Cosimo, who lived in a time of Classic revival, when every influence of learning, literature, art, and poetry tended to that result. But the like-

ness is only slight and transient. The spirits of those distant times, above a thousand years apart, may have had much sympathy, but the genius of each age and race of man was original. From the beginning Art has ever been the fruitful exponent of its own age, locality, and purpose; and its varying styles have been no more than the varying fashions and dialects of its multifarious and inexhaustible language.

Pagan Rome had but little originality in art. Her artists were mostly Greeks. Scarcely the name of one painter conspicuous in high art survives. Doubtless there were native artists, but it was to wandering companies of Greeks that Italy, especially in the south, was indebted for her fine arts; and to them we must attribute most of the works of the early Christians, long before that peculiar Greek type appears which was due to the Byzantine influence. The early Christian Church in Italy was very Greek. If we may trust so careful a historian as Dean Milman, we may accept at least as mainly true this passage in which he described its early state:—"Their language was Greek, their writers Greek, their Scriptures Greek; and many vestiges and traditions show that their Ritual and their Liturgy were Greek. Through Greek the communication between the Churches of Rome and of the West was kept up with the East." To this Professor Westcott adds, speaking of the early Church in Rome, "As far as we can learn, the mass of the poorer population everywhere, the great bulk of the early Christians, was Greek, either in descent or speech. Among the names of fifteen bishops of Rome, to the close of the second century, only four were Latin."

The age of Early Christianity was that when the disruption of the old systems of the world had begun. The old Classic style was fading away in its last weakness. The arts of the Catacombs, like those of Herculaneum and Pompeii, only served to reflect, like marred and broken mirrors, the traditions of the great arts of old. The genius and glory of the works of ancient days had waned away; and the echo of their distant voices were the only signs of life in the language of the arts which remained. The first Christian possessed, in the only artists he could command, but poor exponents of the ideas he desired to record. His artists were probably the poorest decorators of the day. Here and there a few fair works are found, but they are slight and sketchy, and mostly devoid of good drawing or composition, as might be expected from such workmen. But they are not to be condemned for that. The paintings of the Catacombs were done in the dark: the best light the artists could command was but the flare of the torch or flickering lamp beside him. Nor could they be better seen by those who came there. A work of art is not good for its genius and its science alone. Human skill and time and labour have their intrinsic value. If those works were slight and rapid, they were all that they needed to be—and so far good as fit for their place, and fit for the impressions and the scanty time of those who saw or cared for them.

Weak as those works were, their artistic value to us is very great. They preserve in their feeble lineaments and imperfect execution the character and technicality of the great times. Picture painting in the greatest days of ancient art was probably very different from what our eyes are accustomed to. Figure painting was as beautiful as the perfect taste and perfect models of ancient Greece could lead us to expect; but composition of figure subjects was probably more sculptural than picturesque. All scenic background was of the simplest kind; and when natural or architectural forms were introduced, they were devised less to complete a picture, as nowadays, with landscape and perspective, than to fill up by a few accentuated forms and lines the general composition of the subject. In ancient art the backgrounds were often plain monochrome, from which the figures, singly or in groups, stood out in clear relief, beautiful in their freedom from all unneeded accessories and all disturbance. Landscape painting, as we understand it now, was not appreciated. The trees and rocks and other forms of external nature represented in the backgrounds of pictures in Herculaneum, Pompeii, and the Catacombs are conventional in the extreme, and, from the universality of this treatment, we may fairly believe that these plain marks of style and character are the signs of what they had traditionally received from ancient times. Thus we may regard the Classic art of Grecian painting—and of the Roman, also, which was but its echo—as rather based on the principles of architectural than of the more definitely pictorial art. Thus was the painting far more beautiful in its sculptural harmony with the architecture, whether it was executed on the walls themselves or in pictures hung upon them—far more beautiful, indeed, in the entire unity of the general effect than all the resources of linear and atmospheric perspective in modern art, which only too commonly belies and contradicts the architecture that it pretends to adorn.

Thus also in Christian art we often find both single and grouped figures left with only plain monotone backgrounds; and this even where natural objects form part of the illustration, as in such subjects as Moses striking the rock with the waters flowing out, or Jonah beneath his gourd, or cast into the sea, or restored to land with all the many accessories of such subjects, his companions, the ship, the waters, and the whale, or other compositions, equally involved, such as the Sacrifice of Isaac, the Baptism of Christ, or the Sermon on the Mount, or that beautifully-symbolic subject of the ship coming into safe harbour, with furling sails and cargo stored on deck, and a sure landing-place at hand, emblematic of the end of the storms of life, and the soul received into its rest at last. All these and many other subjects, which involve the necessary introduction of natural objects to explain them, are treated with all the traditional simplicity of ancient Classic art. The love and the labour of the artist were thrown into the expression of his figures, and all else was omitted but a few conventional emblematical accessories to explain his subject and to enhance its dramatic interest.

On these good and simple artistic principles all the painting of the early Christians is based. And although the style of art was entirely changed in after times, those principles remained inviolate until the science of perspective and the new passion for realistic landscape painting at the close of the fourteenth century opened a new era in the theory and practice of fine art.

To revert to early days—we find a very different age from that of the former disturbance and trouble beginning to dawn upon the Christian

world, when the night of that most terrible of all persecutions under Diocletian cleared away in the morning of an universal Christendom. The Emperor of Rome became a convert, and the edict of Milan A.D. 312 set the Christians free. This act of Constantine gave a new impulse to everything. Christian art needed no more concealment. No fear of destructive persecution any longer banished it to the subterranean churches and hiding-places of the Catacombs. New styles were adopted, and new technicalities came into use. The old Classic style, effete and exhausted, breathed no more. The establishment of the Empire at Constantinople, brought the contemporaneous styles of Greek art more and more into use. Whatever Italian artists there remained, they could have been little else than pupils or artistically-skilled mechanics; for the works of painting and mosaic, which then began to multiply everywhere, were essentially Greek in design. Constantinople became the head-quarters of the Arts—its buildings developed a new architecture. The influences thus encouraged gave the death-blow to Classic art, and the great works of the school thus developed, and witnessed to our own days in the grand composition of the mosaics of St. Sophia and St. Mark's, at Ravenna, and Milan, in Sicily, Illyria, and at Rome, and numerous other places, turned Christian art into an entirely new current. This change was not in style only. A change of feeling had been gradually creeping over Christian art before the time of Constantine.

The earliest Christians needed no external aid to realise to them in the youth of their enthusiastic faith what they felt to be so near. To them it was but as yesterday that the great drama of their redemption had been acted out. But, as centuries elapsed, and the realities of that awful history receded further and further into the past, a craving desire arose for anything that could restore to them the sense of their proximity, and fill, by some external and sensible expression, the void where memory or imagination failed.

THE ROYAL SCOTTISH ACADEMY.

THE forty-ninth exhibition of the Royal Scottish Academy is now open, and, on the whole, is of average merit; in the opinion of the authorities it is considered to be very excellent. Including water colours and sculpture, there are 1,029 works exhibited, the number last year being 1,043. But while, in 1874, there were about 700 works rejected, a number then without precedent, in this season no less than 980 were kept out, partly in consequence of insufficient space on the walls. Nearly all the members of the Academy are represented, and several of the Scottish artists in the metropolis are contributors. There are fewer architectural designs than last year. As usual, some of the works have already been seen in other exhibitions. Foremost among these may be noted Mr. Pettie's *State Secrets*, a cardinal in scarlet burning some documents in the presence of an astonished monk, which was last year in the Royal Academy; Mr. Peter Graham's vigorous seascape *Northern Walls*; Mr. Orchardson's *Escaped*, a couple of bloodhounds at a river, in which floats the cap of the fugitive; Mr. John Faed's *Morning before Flodden*, Mr. Lockhart's *Don Quixote at the Puppet Show*, Mr. Hole's *Guinevere's Ride to Amesbury*. Mr. Alma Tadema sends one of the most striking pictures in the exhibition, a *Cleopatra* reclining, partly covered by a leopard skin.

The President, Sir George Harvey, has a large landscape, *Highland Scenery*, and an early and characteristic work, *The Covenanters' Communion*. The latter is now the property of the Academy. Sir Noel Paton sends his *Mary at the Sepulchre*, which was exhibited in the Glasgow Institute. The new Academician, Mr. Sam Bough, has several landscapes, one being *Peel Harbour on a stormy day*. Mr. Erskine Nicol, in his *Il Pescatore*, gives another of his scenes of Italian life. Mr. Drummond has an old curiosity shop, with Sir Walter Scott seeking reliques.

Among the water colours are some by Sir John Gilbert, Birket Foster, W. McTaggart, J. A. Houston and others. H.R.H. the Princess Louise contributes a bronze statuette of the Black Prince.

At the dinner on the eve of the opening day, Mr. J. Dick Peddie said that one great obstacle which stood in the way of the Academy securing a more prominent position, and that wider fame to which it might be entitled, was the fact that so many artists left them to go to London. It was some comfort to know that many of the most distinguished of them did not forget the school in which they were taught and the country from which they proceeded. They went to London and spread the fame of the Scottish School of Art. He wished he could say the same of all artists. Some who had gone away seemed to have forgotten them altogether; but he was happy to say these were comparatively few in number, and he trusted in the future they would be still fewer. He could not but think that time would show that those who thought London was the right place to go to were quite in error. If London was the best theatre for securing imperial reputation and large public approbation of their works, it was not at all necessary for a man to reside in London to gain that. Rather it was better to be away from the whirl of London, and reside in the quiet atmosphere where art could be pursued with that leisure which was necessary for the production of great works.

Sir Alexander Grant, the Principal of the University of Edinburgh, in acknowledging the toast of "The Edinburgh University," referred to the proposed new University buildings, and said that the Edinburgh University authorities had been lately exercised very much with questions of architecture. Unlike Glasgow in similar circumstances, they did not despair of the genius of their own country, and they were much struck with the care and ability with which the problem put before the architects had been solved. With regard to the choice which had been made, he was quite convinced that future ages would say that not only had a most efficient and suitable building from a scientific point of view been provided, but that there had also been provided that which was and would be "a thing of beauty and a joy for ever."

The Italian Minister of Public Works has, it is said, determined to undertake the necessary surveys for inquiry into the project for a canal from the Tiber to the sea.

FORTHCOMING PICTURES.

THE London correspondent of the *Manchester Guardian* has been enabled to obtain the following particulars respecting some of the paintings in progress for the next Royal Academy exhibition:—

To chronicle events as they occur is not sufficient for journalism nowadays, but the very shadow that these coming events cast before them must needs be noted and limned; and I am glad therefore to give to that which to the public is as yet but an airy nothing a substantial form, and detail in some degree the probable contents of the forthcoming Royal Academy Exhibition wellnigh three months before its birth. Mr. Millais will again claim attention by his landscapes, though he will not be by any means deficient in figure subjects, but of these latter it is somewhat premature to speak. His landscape work is, however, so far advanced as to make it certain that two such subjects will appear, and will probably occupy those spaces in the first room which have almost by prescriptive right become his own. Both are drawn from those hills and dales of Perthshire which have evoked his best efforts in landscape. One will probably appear as the *Fringe of the Forest*, and will represent the outskirts of one of those plantations of birch and fir which clothe the hill-sides of the Fair Maid's country. The other represents a similar subject, where the edge of a copse tails out into a long stretching valley in which a winding pathway leads. Gorse, wild weeds, heather, and rank grass mingle themselves in wild confusion, in the midst of which "full many a flower is born to blush unseen." The quiet sky and rich colouring of the foreground are admirable alike, and the solitary birch tree which rears itself on the left is a marvellously subtle bit of drawing. As yet the picture has no figure to enliven its solitude, but there is no knowing who may within the next two months tread that pleasant pathway or what may be the final title of the picture.

Briton Rivière will be represented by a very pathetic picture, which haply may not be unrecorded in equally pathetic verse, and where a northern farmer, "when snow the pasture sheets," learns the sad news that "poor Tom is dead." He has wandered out into the dreary fields, and rests against a bleak stone wall, where the very ivy that clung to its sunnier side is dead too; and he looks out with dim, sorrow-laden eyes into the dreary waste in search of comfort and findeth none. Evening creeps on apace, and his faithful collies look up to him in dumb inquiry and wonder, for dinner time has long since passed, and yet he lingers there, recalling that sad past which the black-edged letters crumpled in his hand have so vividly brought back. Good as is the pensive smock-clad figure, the dogs are even yet better, and the patient waiting of the one by the gate whence the heart-weary man has strayed, and the coaxing attitude of the younger one who seeks to win his master from his hopeless watch are even still better. Poetic as have been all Mr. Rivière's previous pictures, this for pathos transcends them all.

Alike in strain, but widely different in treatment, is Mr. B. R. Morris's *Widow's Harvest*, where, with her children, one but yet an infant, she returns from witnessing the garnering of that harvest her husband had sowed. The little ones are as full of glee as she of sadness, and the setting sun best typifies her life's hope as she comes back with sadness, but yet with resignation, from the field of her husband's past labours. In rendering it is even more like poor Mason's work than anything Morris has done before, and it will, I think, be universally considered to be his best work.

Mr. George Lealie will have at least two pictures wherein such village maidens as he only in his knight errantry can discover will be found; and Mr. Frith will be even more numerous represented than usual as the pourtrayer of types of female loveliness. His *Polly Peachum*, from Gay's "Beggars' Opera," his *Belle Gabrielle*, from the "Chansons" of Henry IV., and his *Flower Girl*, represent different types of beauty; but perhaps his most interesting subjects will be found in those he has culled from Fielding's novel, where Sophy Weston has her interview with the fortune-teller, and that where Frith gives us a new rendering of the oft-depicted scene wherein Tom Jones shows Sophy her own face as the surest guarantee he can offer for the future rectitude of his conduct.

Ansell has recovered his ancient vigour from his sojourn in his Highland home, and will contribute many pictures, his two most important being derived from local surroundings—the one where a Highland lad and sturdy horses labour in the picturesque ravine of *A Quarry*, and the other where *Intruders* in the shape of horses and cattle commit an act of trespass on a cornfield. Davis, that other animal painter who by his *Panico* three years ago won his associateship, will this year demonstrate his almost unequalled power in drawing the equine form, and where mares and their foals will be converted into a picture worthy of the studio whence it comes, for in his purchase of the house and appurtenances belonging to the late Sir Edwin Landseer seems to have been included at least some portion of the mantle of that great painter. Heywood Hardy, too, whose *Combat of Lions* attracted so much attention two years since, will give us a tragedy and a comedy, both drawn from animal life. Of the comedy I am not yet permitted to speak; but I may reveal this much, that in the tragedy the relic of "fallen greatness," the vanquished lion, has slunk away to die, and that those vultures which Mr. Hardy has so really painted in this year's Dudley seize on him as their prey.

Mr. Hodgson has again sought art and honour in the East, and an Algerine barber's shop will exhibit his powers as a painter and a humourist in a high degree. Not less amusing, though somewhat more satirical, is his scene where a love-lorn maid seeks medicine for a mind diseased at the hands of a professor of that not unknown race in Europe, the quack, who, with a gravity worthy of an M.D. in Feringhestan, watches the dilution of the ink by which he has inscribed a verse of Al Koran, the universal panacea of the East, and thence diagnoses her disorder. Much pathos will be found in his *Rejected Challenger*, which ought to be dedicated to the Society for the Prevention of Cruelty to Animals, for the sorrowing regard and sympathy with which that young Arab withdraws his cock from a first encounter is so full of mingled self-reproach and kindness for his pet that it preaches a powerful sermon in advocacy of those views which that Society by sterner means would inculcate. Mr. Calderon too has wandered back into the antique ways, and sought near Arles, where never yet he

sought in vain, good subjects for his pencil; and he too has cultivated that vein of humour, of which his *Half Hours with the Best Authors* demonstrated his possession. The sly wonderment with which those monks regard the zeal with which a female of pious tenderness tricks out and furbishes up the paraphernalia for a high function is full of the subtlest humour, nor is that group of *paysans* who repeat the old story of the bewilderment of Paris less so. Had they known Captain Macheath, how truly they would have quoted him? and even I am puzzled as to which of those buxom damsels should be awarded the palm of pre-eminence. But Mr. Hodgson likewise has a mood of sadness, as will be shown by his visit to *God's Acre*.

Mr. Haynes Williams will send some Spanish studies of great power. In the one a stately dame bears through the long drawn aisle of a cathedral church, evidently painted on the spot, a glorious bouquet for the high altar; and in the other a party of soldiers play cards in the corbel of a *posada*, and in both the detail and the colouring will command attention. Mr. Faed will, I fear, be unable to exhibit anything this year; and Mr. Beavis will also be missed, he being with Mr. Harper—whose sketches of Jerusalem attracted so much attention last year—in Syria, studying Eastern subjects. Mr. Sidley, well known to Manchester, will exhibit a charming portrait group of a lady and her children seated on a rustic garden bench, up to which the youngest has clambered to place a rose in her mother's hair, whilst the eldest reads at her feet; and M. Tissot, who has so rapidly made himself at home in England, will give us the first whisperings of *A Coming Storm*, where a young couple on their honeymoon discover that even between man and wife a difference of opinion may occur. Of course it is a Thames-side subject, and I need not describe the wondrous millinery or the clever painting of the balcony, as by Tissot 'tis always so.

THE MANLEY HALL COLLECTION.

MR. SAM. MENDEL, of Manchester, being about to leave his residence, Manley Hall, has instructed Messrs. Christie, Manson & Woods to sell the fine collection of furniture and paintings. The auction of the paintings will take place in April. The following are in the gallery:—

The "Grand Canal, Venice," engraved by Miller, and a "View on the River Maas," by J. M. W. Turner, R.A.; the "Skittle Players," and two other works of W. Collins, R.A.; "Launce and his Dog," by Sir A. W. Calcott, R.A., from the Brunel Collection; "Scene from Henry VII.," by C. R. Leslie, R.A., from the Brunel collection; the "Miniature" and "Hermione," by C. R. Leslie, R.A.; "Sheep-Washing," by Sir D. Wilkie, R.A.; the "Church of the Nativity at Bethlehem," and "Interior of Seville Cathedral," by D. Roberts, R.A.; the "Deer Family," and the "Pete," by Sir E. Landseer, R.A.; "Winnowing Corn," by John Phillip, R.A.; the "Departure of Bayard," by D. MacIac, R.A.; the "Night before Naseby," and the "Opera Box," by A. Egg, R.A.; "Pont-y-Pant Mill, Hereford," and "Preston," by T. Creswick, R.A.; "Mars and Venus," by W. Etty, R.A.; two landscapes by John Constable, R.A.; "George IV.," by T. Gainsborough, R.A.; "Miss Davison," by Sir J. Reynolds; "Gillingham and Stapenhill," by W. Müller; and fine works of Bonington, Crome, Patrick Nasmyth, Payne, and R. Wilson.

The works of living artists comprise:—"A Visit to the Shrine in the Alhambra," by R. Ansell, R.A.; "The Virgin's Bower," "Home after Victory," "A Scene in the Convent at Arles," and "Ænone," by P. H. Calderon, R.A.; "Scheveningen Trawler," and "An Italian Coast Scene," by E. W. Cooke, R.A.; "Abraham and Hagar," "The Young Botanist," "Cinderella," "A Flower Girl," and "The Drinking Fountain," by W. C. T. Dobson, R.A.; "Catherine and Petruccio," by A. Elmore, R.A.; "Only Herself," and "A Wee Bit Fractious," by T. Faed, R.A.; "Before Dinner in Boswell's Lodgings," and "Maria," by W. P. Frith, R.A.; "Aurora and Zephyr," by W. E. Frost, R.A.; "The Lobster-catcher," by J. C. Hook, R.A.; "The Nubian Water Seller," by F. Goodall, R.A.; "Mary Magdalene, and Christ and the Woman of Samaria," by J. R. Herbert, R.A.; "A Venetian Lady," by F. Leighton, R.A.; "Jephthah," "Chill October," and "Swallow, Swallow," by J. E. Millais, R.A.; "Rest by the Wayside," by P. F. Poole, R.A.; "The Sylvan Spring," by R. Redgrave, R.A.; "The Last Sleep of Argyll," and "The Last Scene in Life of Montrose," by E. M. Ward, R.A.; "The Results of Intemperance, and Sickness and Health," by T. Webster, R.A.; "Willow, Willow," "The Appointment," and "The Ferry Boat," by G. D. Leslie, A.R.A.; "The Notary," by H. S. Marks, A.R.A.; "The Death of Raffaele," and four others, by H. O'Neill, A.R.A.; "The Chimney Corner," by W. F. Yeames, A.R.A.; "Portraits of Clyde and Outram," by T. Jones Barker; "Devotion," by C. Baxter; "On the Thames," by Walter Field; "Amy Robsart," by W. J. Grant; "The Jews' Waiting Place," and five other works of W. Gale; "Among the Hills" and "A Highland Spate," by Peter Graham; "Storming the Castle," by W. H. Knight; "The Anxious Mother," by G. B. Neill; "The Journey to Emmaus," "Middy Rest in Harvest," "The Rustic Bridge," "A Landscape, Oxfordshire," and "The Tramps," by John Linnell, sen.; "Autumn Evening" and "Opening the Gate," by J. T. Linnell; "Spring," by W. Linnell; "Head of a Lady," by F. Sandys; "Juliet and Friar Lawrence," by F. W. W. Topham; "The Lost Sheep," by W. J. Webb; "The Grand Canal, Venice and Monaco," by W. Wyld; the small picture of the "Death of Chatterton," by H. Wallis; and the engraved picture of the "Relief of Lucknow," by T. Jones Barker.

The works of foreign artists comprise:—"An Abyssinian Girl," and "Giving Baby a Ride," by Mdlle. Henrietta Brown; "A Souvenir of Lower Brittany," and a "Coast Scene," by Auguste Bonheur; "Prayers for the Absent Soldier," by Dubufe; "President Naurant," and "Napoleon crossing the Alps," by Paul Delaroche; "Mary at the Foot of the Cross," by Dyckmans; "The Bird Trap," "Children at Play," and "Winter," by Edouard Frère; "A Coast Scene," by H. Koekkoek; "An Italian Peasant Woman," by Gerome; "Counts Egmont and Horn," "Vargas," "Columbus in Prison," and the "Wanderers," by Gallait; "Going to Church," by Baron Leys; "Swiss Mendicants," by C. L. Müller; "Perfect Confidence," by Plassan; "Winter," by Schreyer; a "Landscape, with Cattle," by Troyon; and a "View in Algiers," by Ziem.

ILLUSTRATIONS.

A CAPITAL FROM LOWER ARCADE OF THE DOGE'S PALACE, VENICE.

A few buildings are better known than the Doge's Palace at Venice, it is hardly necessary to say that it has two Gothic façades, one towards the Mole, and the other towards the Piazzetta di San Marco, besides one of Renaissance work. "The sea-ward side, and as far as its seventh main arch, the Piazzetta side," says Mr. RUSKIN, "is work of the early part of the fourteenth century, some of it perhaps even earlier, while the rest of the Piazzetta side is of the fifteenth. The difference in age has been gravely disputed by the Venetian antiquaries, who have examined many documents on the subject, and quoted some which they have never examined. I have myself collated most of the written documents, and one document more to which the Venetian antiquarians never thought of referring—the masonry itself. The architect who built under FOSCARI in 1424 was obliged to follow the principal forms of the older palace. But he had not the wit to invent capitals in the same style. He therefore clumsily copied the old ones." ("Stones of Venice," Vol. 2.)

On the other hand, Mr. STREET says, "The assumption that the Piazzetta front has been copied from the sea front involves a belief in a veneration for, and exact imitation of, older work, which is (to say the least) extraordinarily rare, if not unique, in mediæval works. It involves a belief also in the possibility of a spirited and successful copy being made of an old capital by a mediæval sculptor without fresh thought or any fresh invention of any kind. . . . The capitals of the lower arcade were probably sculptured by degrees, and certainly not by one hand between the years 1310 and 1361." ("Brick and Marble in the Middle Ages.")

Mr. STREET classifies the thirty-six capitals in the lower arcade into four divisions; (1) capitals with plain tufts at the angles, with heads, beasts, &c. between; (2) capitals with foliage curving over and falling downwards at angles, with vertical foliage under subjects; (3) capitals with foliage rising vertically to angles and curving over and falling down under subjects; (4) capitals with foliage at angles and under subjects, curving over and falling downwards. The neckings are either moulded, carved with foliage, or corded. Mr. RUSKIN describes the capitals as being "octagonal, and decorated by sixteen leaves, differently enriched in every capital, but arranged in the same way; eight of them rising to the angles, and there forming volutes; the eight others set between them, on the sides, rising half-way up the bell of the capital; there nodding forward and showing above them, rising out of them groups or single figures. In some instances the intermediate or lower leaves are reduced to eight sprays of foliage, and the capital is left dependent for its effect on the bold position of the figures." ("Stones of Venice," Vol. II.)

In three of the capitals birds are introduced. Two of these are identical in treatment—viz., the eleventh and the thirty-fourth (counting from the south-east angle); our illustration is of the former, which is generally accepted as being the earlier of the two, and the latter has been given with some of the effect of light and shade of the original in one of the engravings in Mr. RUSKIN's "Seven Lamps of Architecture." He says of it:—"The capital is of the noblest period of the Venetian Gothic, and it is interesting to see the play of leafage so luxuriant, absolutely subordinated to the breadth of two masses of light and shade. What is done by the Venetian architect, with a power as irresistible as that of the waves of his surrounding sea, is done by the masters of the Cisalpine Gothic more timidly and with a manner somewhat cramped and cold, but not less expressing their assent to the same great law. The icy spiculae of the North, and its broken sunshine, seem to have image in, and influence on, the work: and the leaves which under the Italian's hand roll and flow and bow down over their black shadows, as in the weariness of noon-day heat, are in the North crisped and frost-bitten, wrinkled on the edges, and sparkling as if with dew. But the rounding of the ruling form is not less seen and felt."

The most elaborate description of the Capitals yet published is that by Mr. W. BURGESS, in the *Annales Archéologiques* for 1857, which we hope to give before long, being the first time it has appeared in English.

NEW LEAGUE HALL, LIVERPOOL.

THIS building, which is to be erected at the corner of St. Ann's Place and Rose Place, Liverpool, will comprise a hall, the dimensions of which will be 74 feet by 86 feet, and 54 feet from floor to ceiling. Within this space two tiers of galleries are constructed on a double row of columns, with floriated capitals. The first tier is a balcony of cushioned armed chairs, covered with crimson velvet, accommodating about 700 persons, and approached from St. Ann's Place by an ornamental stone staircase 11 feet wide. On the same level as the balcony is a spacious cloak-room, with lavatory and w.c.; also a refreshment room, retiring room, gentlemen's lavatory, and w.c. The upper gallery will be approached by a stone staircase from Rose Place, and will seat about 1,000 persons. The body of the hall will be reached by an entrance at the corner of St. Anne's Place and Rose Place, and will hold about 2,300 persons, making the total accommodation to be for about 4,000 persons. On the ground-floor will be a committee-room, 29 feet by 14 feet, with lavatory and

w.c.; also a manager's room. Under the platform will be constructed four retiring rooms, with lavatory and w.c. attached; also an orchestra, which is so arranged that it can, on the occasion of balls, &c., be used as a refreshment buffet. The platform is reached from the retiring rooms by two staircases. The basement, which is 12 feet in height, and the same dimensions as the hall, is divided into reading-rooms, billiard-rooms, bowling-alleys, &c., with the necessary conveniences, and is reached by a stone staircase 5 feet wide. The interior walls are divided into panels by pilasters supporting a coved ceiling, divided into compartments by moulded ribs, the whole to be decorated with colour. In the centre of the panels and pilasters will be placed mirrors framed with gilt beading. The building will be lighted at night by two large sun-burners, and brackets projecting from one row of columns, and in the daytime by ten large skylights and the windows round the aides. Externally the building will be faced with red pressed bricks, with bands of Stourton yellow stone and blue and white bricks. The architects are Messrs. T. E. MURRAY and G. H. THOMAS, 14 Clayton Square, Liverpool, and the entire cost of the works will be 12,000*l*.

BOARD SCHOOLS, NORTH WALSHAM, NORFOLK.

THESE schools have recently been completed, and afford accommodation for 450 children. The cost has been as follows:—Schools, offices, fittings, &c., 2,700*l*; master's house, 400*l*; boundary walls and gates, 250*l*; total, 3,350*l*., the expenditure being thus at the rate of 6*l*. per child for the school buildings. The walling material is red brick, with ornamental brick and Bath stone dressings; roofs covered with blue Bangor slates. As a rare instance of a satisfactory competition, it may be mentioned that the Board, after advertising for and receiving a number of designs, called in a competent architect to assist them in their decision. The referee advised the Board to adopt the design illustrated, and his advice was acted on. The work has been carried out by Mr. ROBINSON CORNISH, builder, of North Walsham, from the designs and under the superintendence of Mr. J. T. BOTTLE, architect, London and Great Yarmouth.

EXHIBITION OF SCIENTIFIC APPARATUS.

A MEETING was held at South Kensington on Saturday last for the purpose of discussing the advisability of bringing together a Loan Collection of Scientific Apparatus. The Duke of Richmond, the Lord President of the Council, took the chair, the Vice-President, Lord Sandon, being also present.

On the motion of the President of the Royal Society it was unanimously agreed that such an exhibition would be most instructive and valuable.

The question of the limits of the Collection was discussed, and sub-committees were appointed to deal with the various branches of Science to which it is proposed the Collections should have reference. It was generally understood that the main objects of the Exhibition would be to show modern apparatus for teaching and for research; the applications of Science to industry; and such apparatus as is historically interesting from the occasions in which, or the persons by whom, it had been employed.

The Exhibition will be opened at the commencement of June. It is however doubtful at present whether all branches of Science will be taken during this year or whether the Exhibition will be extended over two years, as the space disposable in the South Kensington Museum, where the Exhibition is to be held, is rather restricted.

SANITARY DEFECTS OF CARLISLE.

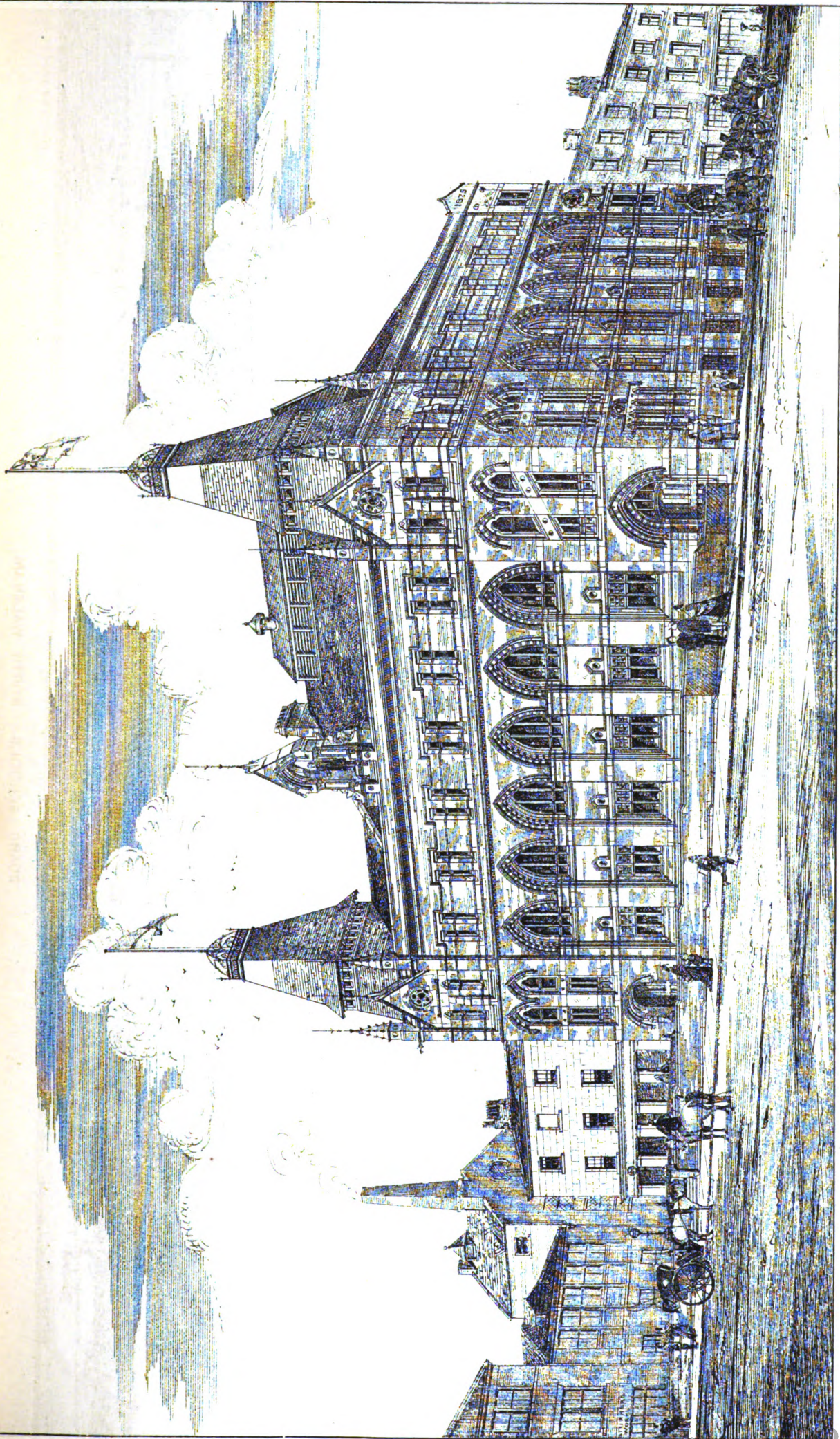
A REPORT has been presented to the Carlisle Town Council, in which it is stated that in the old buildings of the town, especially those inhabited by the labouring classes, and where overcrowding is prevalent, the attention of the sanitary authorities has not been directed to ventilation till lately, there being a difficulty in dealing with it effectually. It is probable that in flagrant cases the provisions of the Nuisances Removal Acts would enable the Council to enforce means of ventilation by having the rooms declared unfit for human habitation until proper ventilation is provided. The crowding together of buildings in the older parts of Carlisle on insufficient space is one great evil which interferes much with the proper ventilation of such buildings. This is owing in a great measure to the circumstance of Carlisle being an ancient town, formerly fortified and surrounded with walls, so that the space of ground within the walls was limited, and consequently of great value; and also to the plan on which Carlisle has been originally built, consisting of one long street running through the whole length of the city and suburbs from north to south, with lateral lanes on each side; there being also within the city other narrower streets parallel to the main street, and connected with it by narrow lanes. These lanes are for the most part very narrow, being only wide enough for the passage of a small cart, and sometimes not so wide, and intended only for foot passengers. They have houses on both sides which are sometimes built back to back with the houses in the next lane, and have no yard or open space connected with them, except the lane in which they are built; whilst the ends of most of the lanes adjoining the streets are arched over, with houses built over the archways, thus interfering with the through ventilation. This state of things can only be effectually remedied by an extensive demolition of the old buildings, and the opening out of lateral or cross streets of sufficient width between the existing streets, in lieu of the present lanes. The Corporation of Carlisle have already made a beginning in this direction. One such street is now in course of construction, and property is being acquired to enable others to be opened out as opportunity offers.





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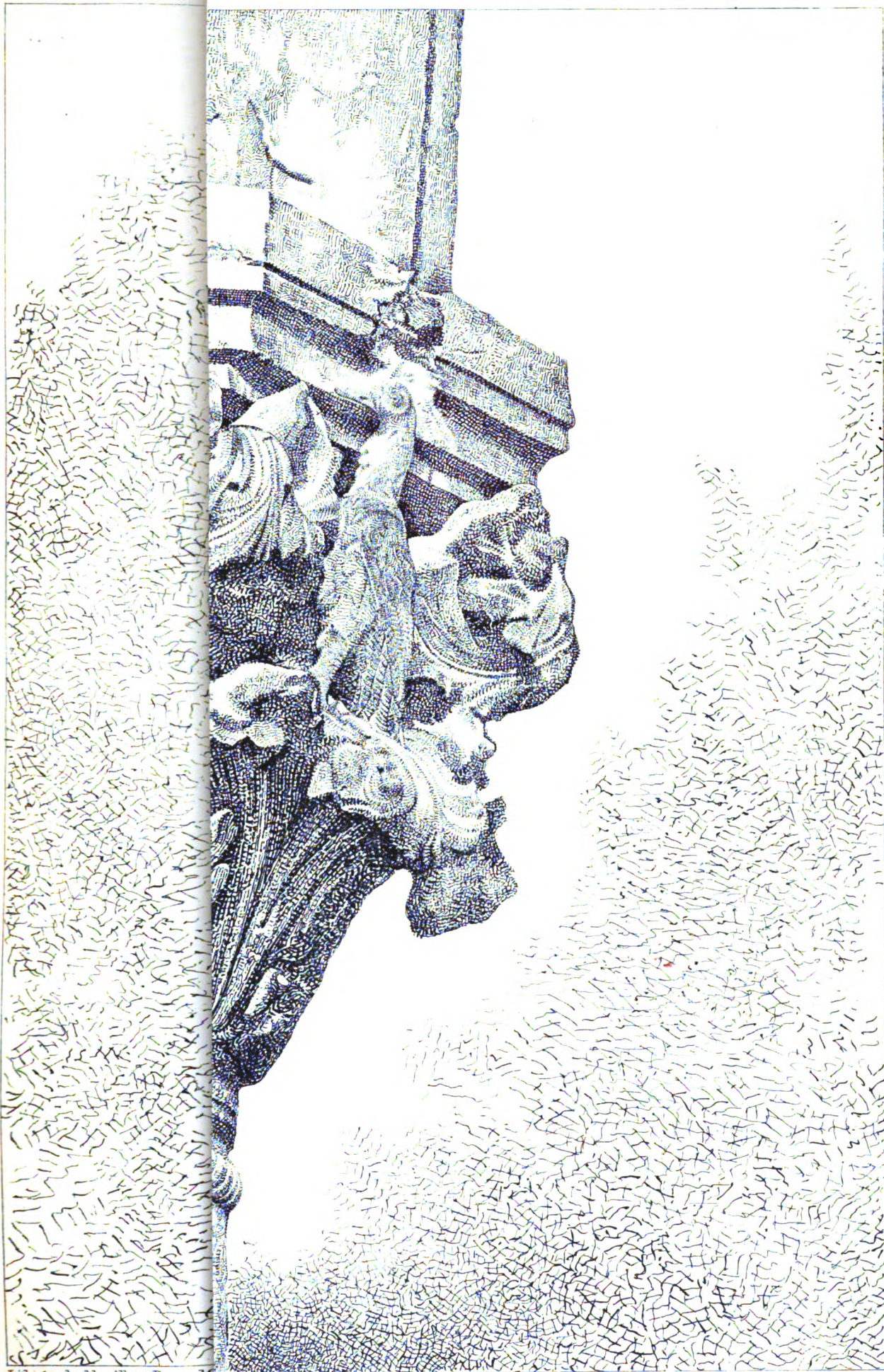
BOARD SCHOOLS - NORTH WALSHAM.
J. T. BOTTLE - ARCHITECT



Designed by W. H. Stanger & Co. Liverpool E.C.

NEW LEAGUE HALL - LIVERPOOL.
T. E. MURRAY & T. H. THOMAS, ARCHITECTS, LIVERPOOL.





Lithographed by Albert Bettis, M

Printed by W.W. Sparrow & Co. London E.C.

ENICE.



ROYAL INSTITUTE OF BRITISH ARCHITECTS.

An ordinary general meeting was held on Monday evening, Sir G. Gilbert Scott, President, in the chair. The drawings submitted in competition for the Pugin studentship were exhibited, and the Secretary (Mr. O. L. Eastlake) announced that the Council had elected Mr. James Neale, Pugin Travelling Student for 1875. The President stated that the drawings sent in by Mr. Neale, of St. Alban's Abbey, were really admirable, being a complete monograph of the Abbey, and they were well worthy of inspection. In the same competition it was stated that the medal of merit had been awarded to Mr. G. D. Oliver; and the drawings of Mr. John Langham, Mr. Edwin J. May, and Mr. E. J. Munt were also commended on account of their great merit and ability. The Council had great pleasure in bearing testimony to the high standard of excellence which had been maintained—Mr. Eastlake observing that the drawings seemed each year to attain a higher standard of merit.

A Paper was read by Mr. J. T. Wood, Fellow,

On the Temple of Diana at Ephesus.

Mr. Wood, in his opening remarks, said that learning from the secretary that a number of gentlemen interested in Grecian architecture would be invited, he had hastily prepared a short Paper, with the object of pointing out some of the features of the Temple of Diana, the remains of which he had for some years been exploring under the auspices of the trustees of the British Museum. He would first mention that the situation of the temple in respect to the city was about a mile from the nearest city gate. On the last day of 1869 the pavement of the Temple of Diana was found, nearly 20 feet below the present surface of the ground. This pavement appeared to be that of the last temple but two, which was commenced about 500 years B.C., and was built by Oheripphen and his son Metogenes. It was formed of two pavements or layers, the lower one—15 inches thick—being composed of limestone from Mount Coraeus, and roughly tooled; the upper one of white marble, 9 inches thick, rubbed and polished. The upper layer consisted of irregular blocks, chiefly wedge-shaped, as if they had been previously used in connection with columns and the joints which radiate from their centres. In conjunction with the first patch of pavement found there was the lowest course of the southern ante of the west front of the same temple (the last but two), and this, with some additional masonry, had served for the foundation of the same ante for the last temple, which he discovered had been raised one above the other. On enlarging the excavation where the pavement was found, some drums of columns were met with which had fallen from one of the outer columns of the peristyle, and which remained as they had fallen, upon the remains of foundation piers and the connection wallings. This column, Mr. Wood, therefore, traced to its base, under the foundations of which he found the square plinth stone of the base of the last temple but two. The drums of columns were from the last temple, and being from the middle of the columns measured only 5 feet 7½ inches in diameter. Near this spot he found remains of two capitals, but so much mutilated that only one of them was forwarded to England, and was, with two other capitals afterwards found, in the British Museum. In sinking a number of trial holes to ascertain the direction of the temple, he found the base of one of the outer columns of the peristyle on the south side in position, together with the lowest drum of the shaft superimposed. This had been re-erected in the Elgin gallery. The bases of the two columns now found being about 150 feet apart, he had a considerable area to explore, which was without doubt a portion of the site of the temple. This done, large patches of the pavement were found undisturbed, excepting so far as disturbances had been occasioned by earthquakes; and drums of columns, fragments of the enrichments, and some Greek pottery were excavated. A considerable portion of the massive masonry which supports the steps was also laid bare. Here, also, were eventually found two stones from the tympanum, which gave the angle of the pediment as 17°, rather a steep pitch for the roof of a Greek temple. As the excavations proceeded other portions of the temple were discovered. A small portion of the cella wall on the south side, and a considerable length of the west wall of the cella remained undisturbed to the height of three courses, and the distinct impression of both the flank walls and of one of the cross walls to the height of four courses above the plinth was found upon the rubble masonry of some foundation piers which had been thrown in against the cella walls. These piers were eighteen in number, nine on each side, and their existence and position enabled Mr. Wood to ascertain the probable whereabouts of the cross walls, which were shown at the east end of the cella. Then followed in due time the discovery of the base of one of the inner columns of the peristyle, and a very considerable length of masonry which supported the steps of the platform on the north side, with the walling between it and the foundation piers of the outer columns of the peristyle. The position of this walling, and the distance between the column on the south side and that on the north side, had enabled him to determine the intercolumniation between the columns on the flanks which intervened between the ante and each extremity of the temple. The base of the column on the south side had been pressed out of the original position at the time the column fell, but he was assisted in ascertaining its exact original position by that of one of the plinth stones of the base which had evidently remained undisturbed. The walling of the cella, which was 6 feet 4 inches in thickness, had been thickened out to 13 feet for the foundations of the two succeeding temples.

In proceeding, Mr. Wood said it must have been the immense block which formed the architrave between the central columns of the temple that gave the architect so much trouble, and which the Goddess Diana was said to have assisted him in placing, the thickness being a little more than 20 feet.

It was found extremely difficult to explore the cella, owing to its being full of immense blocks of marble. No cross walls were found (except where they were indicated on the plan). He had supposed the works of

Praxiteles, Scopas, and others, which were described on the plan as adorning the altar, to have been placed in a recess behind the altar.

In course of time a considerable portion—more than 100 feet in length—of the lowest step of the platform on which the temple was raised was found in position on the north side; and a short length was also found at the east end. This discovery Mr. Wood considered a very important one, as it enabled him to complete his plan, and ascertain the length and breadth of the platform, the number of steps required in mounting to the platform, and various other matters of detail in respect to the temple and the platform on which it was raised, which hitherto had been wanting.

The temple proved to be octastyle and diastyle, as described by Vitruvius. He had supposed it to have been hypæthral, not only from its immense size, but because he found a Corinthian capital, elliptical in form, which he imagined might have come from the upper columns of the interior. What the hypæthron of the Greeks really was had not been determined, and he was sorry to say that he had discovered nothing to advance their knowledge of it. He had supposed the expression to imply what it meant literally, namely, "open to the sky," and that a considerable portion of the cella had no roof whatever. Protection from the weather might have been afforded by means of a sort of canopy or baldachino.

The lower diameter of the columns was 6 feet 6½ inches, the upper diameter, 4 feet 10½ inches; they were built on frustra or drums, varying in height from 2 feet 6 inches to 4 feet 6 inches; the outer columns of the peristyle had 24 flutings, and the inner columns 28. Vitruvius described the inner column of the peristyle of the temple as having 30 flutings. The flutings were elliptical, the fillets dividing them being only a full inch wide; the outline of the base was particularly beautiful, excelling in refinement all the bases of Ionic columns Mr. Wood had ever seen, and it gained much by being raised above the pavement upon a square plinth nearly 18 inches high.

The capitals of the columns were remarkable for their boldness and simplicity of design; the eggs, composing one of their chief features, were only a foot in depth; the volutes were of corresponding beauty; and the abacus was adorned with the egg and tongue a little more than 5 inches deep. All the eggs belonging to the abacus were missing. Several large fragments of the architrave were found, but in all cases the mouldings of the upper part had been chopped away. The walling of the cella was composed of blocks of fine white marble. In sinking some holes near the walls of the cella he found a layer of putty, also a layer of charcoal, and then another layer of a putty-like composition. There was no doubt of charcoal having thus been used, as described by Pliny, and chemists had assured him that the putty composition was obtained from fleeces of wool. He had entertained considerable doubt upon the point himself. The water came in so rapidly as to interrupt his researches, but he had forwarded specimens of the composition and charcoal to the British Museum.

In completing the description of the last temple of Diana, Mr. Wood stated that it had been raised on a platform of fourteen steps. The height of the pavement of the peristyle was 9 feet 5½ inches, from the pavement found in position behind the lowest step, and was laid on Korassan cement 3 inches thick. The pavement was Roman. The rise of each step of the platform was little more than 8 inches, and the treads were 19 inches; the width of the platform was 239 feet 4½ inches, and the length 418 feet 1½ inch. There were eight columns in the front, and in the flanks twenty; the columns of the peristyle were 100 in number. He had been struck with the obtrusiveness of armorial bearings, occupying in some cases one-third of the windows; but the spirit thus manifested might have contributed materially towards the building of the temple. On one only of a sculptured column was there no inscription as on that of the other columns, human vanity and weakness in this direction exhibiting its counterpart in modern times at Glasgow.

Portions of four or five sculptured drums were now in the Museum, representing the assemblage of gods and goddesses; the figures being planted together as closely as could be. Another of the drums found showed figures alternately standing and sitting; another representing male figures in Persian costume, was in very low relief. In many fragments found there were traces of colour, and in one instance gold had been used. He had found distinct remains of the last three temples, and rescued about 300 fragments; some lions' heads were also found. The doors were about 15 feet wide, and part of the architrave of the door of the east temple was found, inscribed with the names of Marcus Aurelius, his wife and daughter. The marble of which the last temple was built was inferior in quality to that of the preceding temple. It only remained for him to add, that an architect who lived in the time of Alexander the Great was the architect of the last temple. The whole site of the temple had been excavated to the depth of 30 feet, and the explorations had extended over a period of nearly five years. The excavations were abandoned by the order of the trustees of the British Museum, in August, 1874.

Mr. HYDE CLARKE, who rose at the request of the Chairman, said he was scarcely prepared to respond to the appeal, because Mr. Wood had described the temple of Diana rather than the city of Ephesus; and he (Mr. Clarke) was better acquainted with the general subject of Ephesus than the one which Mr. Wood had made his own. They had all reason to congratulate themselves that Mr. Wood had been the means of effecting a very remarkable discovery; this he said, although on some points there had been a controversy between himself and Mr. Wood. He had witnessed the labours of Mr. Wood in every part of the city, not only as an archaeologist but an architect, and he was entitled to gratitude for procuring details of a great school of art. It was no fault of Mr. Wood's that the remains were relatively insufficient to convey an adequate idea of that enormous and beautiful structure, the Temple of Diana. His discoveries tended rather to whet the appetite than to satisfy it. He considered that whatever influence might have been exercised by Greece in the architecture of the temple, the influence exercised by Asia Minor was greater. The contrast between the paintings was remarkable, exemplifying respectively the characteristics of the Grecian and Asiatic schools; and it would be valuable if, as the result of further investigation of the subject, the difference

between the two schools and the influence exercised by one on the other might be arrived at. He thought that the extent of Asiatic influence was much more worthy of study than it had generally received; and later discoveries might raise a doubt whether we were justified in attributing to the Egyptian school that inspiration which applied to the Asiatic school of architecture. Researches proved how old was the school of Asia, and how vital the influence which it exercised. Whatever they owed to the genius of the Greek, he felt that they owed much more to the continuance of those great schools of art which had existed thousands of years in Asia, and were better known since the discovery of the remains of Babylonia and Assyria. Our knowledge had thus been increased under circumstances of very great difficulty. He regretted the absence of Professor Donaldson on the present occasion, whose knowledge was very extensive, and who was one of the chief explorers. Mr. Wood had pursued his researches at the risk of his health and life, and under circumstances of very great difficulty. They were prone sometimes to be unjust to explorers, there being an idea abroad that all the explorer had to do was to excavate to a certain depth and instantly to discover some curious stone or work of art; but Mr. Wood laboured under circumstances of great discouragement. The information Mr. Wood had now laid before them was the result, in fact, of two experiments; for he had in the first instance to search for the site of the temple, and obtained nothing but subsidiary results. He, however, prosecuted his labours with admirable patience and energy, and had been rewarded with a certain measure of success. And yet how gratified would they have been if Mr. Wood had succeeded in finding 50 drums instead of two or three; and how much would their knowledge have been increased, because he had pointed out that the columns were contributed by various kings and states, thus constituting examples of different schools of art. He had great pleasure in offering a personal tribute to the value of Mr. Wood's labours, and hoped that he would furnish the Institute with still further particulars, because when unable to find the temple he never wasted his time, but occupied every moment in making measurements and researches.

Mr. PENROSE said he was unable to contribute any information to the meeting upon the subject of the Paper, for questions could not be raised off-hand after listening for a few minutes to the lecturer. He had not been at Ephesus himself, but, with regard to the architecture, there was one remarkable thing respecting the temple, namely, the broad platform outside the columns. The platform was certainly unique in Greek architecture.

In reply to questions, Mr. Wood mentioned that he had bought the ground, which included the site of the temple, and a considerable portion of the adjacent land. Some one who had taken a fancy to Ephesus was in charge, and had bought a place there, but he was under strict injunctions not to touch the temple or interfere with the excavations. At some future time Mr. Wood said he looked forward to continuing the excavations, but a fund of not less than 2,000*l.* or 3,000*l.* would be necessary for the purpose. He felt convinced there were many drums of columns beyond the site explored. He had not attempted to supply them with a history of the excavations, as the subject would probably weary them. It was contrary to his advice that the explorations were discontinued, as another year's operations would probably have brought about more important results. He was disposed to extend the excavations 30 feet wide round the present area, and only waited for money. There was evidence that the outer and inner columns of the peristyle had square plinths.

Mr. PENROSE thought it was a magnificent subject, and they must feel very much indebted to Mr. Wood, but he was not prepared to be his examiner on the occasion.

Mr. BURTON considered that Mr. Wood had done great service to art by his discoveries at the risk of his health and the expenditure of some of the best years of his life. In his view the most interesting feature in the discoveries was the light which Mr. Wood had thrown upon Greek art. The tangible results of his labours, it was true, were not very large in their extent, but the value of them could not properly be estimated by their extent. The two or three drums, or fragments of drums of columns which Mr. Wood had brought over appeared to be of very great value indeed; they were found *in situ*, and the fact that they could fix within a very few years their probable date was a matter of great importance. They appeared to belong to the second Attic school, and furnished a clue to the mode in which those features were treated in the days of Scopas and Praxiteles: the treatment being broad and noble without undue attention to detail. It was difficult at the present time to form any idea of the effect of the bases, but he should imagine, with the light playing about them, that there must have been something weird and magical about them which was calculated strongly to impress the minds of the worshippers.

In reply to Sir Charles Hartley.

Mr. Wood stated that as nearly as he could remember the excavations were 130,000 or 140,000 cubic yards in extent.

Professor KERR suggested that some further explanation respecting the very remarkable plinth stone would be interesting, and also respecting a curious figure on the walls in human form. In bearing testimony to the great value of Mr. Wood's services, he could not admit that his discoveries had been slight, but, on the contrary, were very important. He thought they would all agree that Mr. Wood had solved the abstract problem, and he trusted that funds would be forthcoming to enable him to continue his researches. Perhaps in some future generation the wealth of the country, when it was super-abundant, would flow into a channel likely to benefit architecture and archaeology.

Mr. Wood said that the representation of Diana referred to by Professor Kerr was simply a large copy taken from a print. As to the origin of the worship of Diana he attributed it to a tree stump, and supposed that by degrees the stump was carved into a human figure, and became a goddess. It was curious that the lava of Vesuvius on the mountain sides assumed a human form, presenting the appearance of a large cattle-field. There were some male figures in Persian costume, which he described as being in very low relief. Some of the drums were of very varied character.

Professor KERR asked whether they did not all appear to belong to the same school.

Mr. Wood thought not, the Persian having very distinct capitals. He found 100 fragments of very interesting architrave frieze.

Sir GILBERT SCOTT: Will you tell us a little about the previous temples?

Mr. Wood said that the date of the second temple was about 500 years B.C. He believed Herodotus said that the columns were monolithic. There was in the British Museum quite a large collection of fragments of the architectural enrichments of the last three temples, and in order properly to classify them, a space as large as the meeting room of the Institute would be necessary. Of the columns of the last temple only did he find any remains.

Mr. A. CATES said that unfortunately he had not had the opportunity of visiting the scene of Mr. Wood's researches, but they must all feel convinced that much more remained to be discovered, and the Institute would do great service if it could facilitate the completion of the operations. The explorations already made had been at the expense of the Government, and about two years ago it was supposed that the funds were exhausted, but, in consequence of representations then made, further funds were provided. Was it not possible, by renewing those representations, to obtain the means for completing the explorations? The British Government could not say that it stood alone in such a matter, for Germany had voted 10,000*l.* for the purpose of making explorations in the plains of Olympia in pursuance of a bargain with the Greek Government, that site offering a good field, particularly on this side of Ephesus, for the discovery of sculptured remains. There was also ground for encouragement in the discoveries which had been made at Athens by a small society of archaeologists, who had in fact laid bare a small Pompeii. He thought it would be a great pity if Government were now to hold back just when Mr. Wood hoped to reach the crowning point in his discoveries. If the matter were again brought forward, Government might give effect to the representations.

Sir GILBERT SCOTT: We have a standing committee for the preservation of ancient monuments in England, but its functions may not apply to similar monuments abroad. We might, however, memorialise the Government on the subject.

Mr. CATES said he would make that proposition.

Mr. WOOD remarked that in addition to the temple of Diana he had found a smaller Doric temple, and the remains of four columns 20 feet apart, so that it must have been a considerable building.

Sir GILBERT SCOTT: Do you think we can do any good by memorialising Government?

Mr. WOOD: I think you have only to press the matter to produce the desired effect.

Mr. PENROSE said that he had great pleasure in seconding the motion of Mr. Cates.

Mr. DAWSON said there was a smaller matter which might be pressed upon the attention of the Government, namely, the desirability of arranging the fragments which Mr. Wood had already obtained; and, if necessary, a temporary place for their reception should be provided with that view.

Mr. HYDE CLARKER observed that there were many remains of Archaic art, and important information might be obtained with regard to the pre-historic period. Ephesus had always been a great and remarkable city, and reached a high point of civilisation.

Mr. WOOD said that by exploring the public buildings he thought he might find some clue to the temple.

Mr. PENROSE: I beg leave to move a vote of thanks to Mr. Wood.

Professor KERR said that he seconded the motion with great sincerity, and he thought the Institute ought to feel very proud of obtaining as one of its members a gentleman of so much distinction in the scientific world as Mr. Wood. His ability was only paralleled by his modesty, and he (Professor Kerr) trusted that he would soon be placed in a position to pursue his investigations of a very interesting subject still further.

The PRESIDENT said he did not think he had anything to add, but he could not let the occasion pass without observation. He thought they were in danger of underrating the extreme importance of Mr. Wood's discoveries. From their infancy they had heard that the whole city of Ephesus had been examined over and over again without the slightest trace being discovered of the temple of Diana. That was the case until a few years since; and Mr. Wood had not made his discoveries accidentally, but by a process of induction had, as it were, traced out the temple step by step. Without the slightest trace whatever, but by the exercise of reason and the most laborious process, he had traced it to earth and dug it out. As to the discovery itself, and the smallness of its results, Sir Gilbert Scott said that he did not take that view of the subject, for the fact of Mr. Wood having been able to discover the whole plan of its site was in itself very wonderful indeed. Portions of the most remarkable columns that were to be found throughout the whole range of antiquity had been brought to light; and the bases, as Mr. Wood had said, exceeded in refinement any that were known. The sculpture of the columns, though not, perhaps, so fine as the finest sculpture of Athens, ran it very close. The capitals, again, were less ornate than some of those at Athens, but were fully as noble. Taking it all in all he thought it was unquestionably the greatest discovery that had been made in the present day. But then the question came, were the explorations to be discontinued when part of the work only had been done, and there were other great drums to be still unearthed? He hoped the work might still be continued under the direction of Mr. Wood, and if his health did not admit of his personal supervision, he might at all events direct the operations at a distance.

The vote of thanks was then put from the chair and carried by acclamation, and Mr. Wood, in acknowledgment, said: I will simply thank you for the kind manner in which you have received my remarks.

THE CISTERCIAN ABBEY OF INCH.

MR. JAMES PHILLIPS recently read a Paper on "The Architectural Remains of the Cistercians in the County Down" at the Belfast Museum. It chiefly referred to the antiquarian researches in progress at Inch Abbey, near Downpatrick, where, some of the *debris* having been cleared away, part of the foundations were exposed showing the original arrangement of the building. In the progress of the works some carvings were found, and several pieces of stained glass.

The Cistercian Order was introduced into Ireland by St. Malachy (O'Morgair), Bishop of Down, who, when travelling to Rome about the year 1138, made the Cistercian Monastery of Clairvaux a resting-place, where he became acquainted with the great luminary of the Order, St. Bernard. Soon after the Cistercian House of Mellifont was founded and endowed by Donogh, or Donatus, O'Carol, King of Ergall, or Oriel. It is an error to suppose that the Cistercian Order was introduced into Ireland by the Normans, or to imagine that because we find such a frequent admixture of "Early Pointed" among its Romanesques that, therefore, the Anglo-Norman architects and builders were the authors of all the abbeys. We find from unimpeachable authority that a generation before Strongbow, or Henry II., set foot on Irish soil, St. Malachy, Bishop of Down, had introduced the Cistercians, and they had become nationalised even in the County Down, in Newry, under the native Bishop Malachy and the native King of Ireland long before John de Courcy was bitten by his abbey-building mania. Their abbey remains, particularly those of Mellifont, Bective, Nenagh, Boyle, Balingglass, Holy Cross, Jerpoint, display in their earlier portions all the beautiful characteristics of the Hibernian Romanesque, with frequent traces of Early French. The chapter-house shows the handicraft of Irish art workmen acting under the foreign influence of the instructor sent over by St. Bernard, as fruits of St. Malachy's admiration of the order, instilled into his mind during his visits to St. Bernard, of Clairvaux. The Cistercians had in a very short period monasteries at Fermoy, O'Dornay, Knockmoy, Athlone, and in almost every tribeland of Meath and Leinster. The houses were highly honoured, had the titles of abbeys, and more abbots belonging to this order were lords spiritual, and as such sat in Parliament, than all the others put together. For, of fifteen abbots who had this prerogative throughout the kingdom, thirteen were of the Cistercian Order.

The ruins of Inch and Grey Abbeys were the only Cistercian remains in the County Down which now furnished them with any detail. Fortunately for their researches, they had sufficient of those two abbeys still left to illustrate the subject. Those who wished to study Cistercian architecture had better seek help and guidance in the publications of that most eminent of living archaeologists, Mr. Edmund Sharpe, of Lancaster. They had on the wall his model plan of a Cistercian abbey; and, as they would see by it, the conventional buildings were arranged round a cloister garth or quadrangle. With rare exceptions the church occupied the northern side, and was in plan invariably in the form of a Latin cross. From the south transept extended a range of buildings in a southerly direction; the sacristy, the chapterhouse, a passage or parlour, a frater or monks' day-room. Along the southern side of the cloister was a stair to the monks' dormitories, which extended over the entire range of apartments just mentioned. Next came the kitchen, butteries, &c. The western side of the cloister was occupied by a long building, which Mr. Sharpe's recent investigations led him to call *domus conversorum*, or day-room and dormitory of the converts or lay monks. There were other incidental buildings which seemed to have conformed to no general rule except local convenience. Now, if they searched every one of the sixteen Irish Cistercian abbeys whose remains they yet had, and all of which, with the exception of three, he had investigated in one way and another, they would find in no case an extensive departure from this general plan, except such as more recent circumstances, troublous times, or a relaxation of the severity of the rules had occasioned. There were general rules which affected their architecture, which were embodied in their charter of charity (*charta caritatis*), more particularly as regarded their conventual churches, the most important of which were that they should be rigidly plain, and without lofty bell-towers. They were forbidden the use of elaborate carvings or representations of the human form, also all merely ornamental or sensuous features, such as stained glass, pictures, gold ornaments, coloured decorations, &c. These rules obliged their architects to depend for their effect on excellence of proportion and chasteness of detail. To this, combined with the fact that the movement was contemporary with the rise and development of the earlier and most pure of Gothic styles, may be attributed the excellence of the architecture of all the Cistercian monasteries yet remaining. It was necessary, however, to observe that these rules were relaxed early in the thirteenth century, that the Cistercians, more or less, followed the Benedictines in employing a greater degree of splendour in their later erections, and that those relaxed rules affected the abbeys of Down they had some proofs, such as in the stained glass in Inch Abbey, which had just been found during the recent researches, and in the encaustic tiles of Inch and Grey Abbeys, the grotesques in the latter, the carvings of monks' heads, which he was informed on good authority were some years ago found in Inch.

Having explained, by the aid of sectional drawings, the several features and general plan of the Cistercian Abbeys, the lecturer proceeded to describe the site and position which those buildings occupied—the church in each case being in the form of a Latin cross. The nave of Grey Abbey had one peculiarity not usual in Cistercian churches—it was aisleless; but this had had a very plausible explanation by Mr. Drew, who considered that it was an earlier church adapted by Cistercian builders, and in this idea he considered he was borne out by the character of the detail of the doorway in the north wall of the nave. Inch Abbey was hitherto considered to have been aisleless, but the recent excavation made by Mr. R. P. Maxwell, had revealed the foundations and some of the walls of these aisles, which were comparatively narrow—about thirteen feet wide. This abbey church at Inch had been always described as about 80 feet long, but there was now

very visible evidence that it was 174 feet long—i.e., some 66 feet longer than Grey Abbey, and that what was supposed to have been its western end was but the site of the *rood-screen*. In this cross wall was a gap or doorway which not many years ago exhibited some very fine carved stonework, since torn away to scour the hearths of the thrifty vandals of Downpatrick. As far as their excavations had gone, he was inclined to consider that the clerestory or triforium was borne by massive main arches springing from massive piers; but this was mere conjecture. The western end of the nave most probably had a doorway, and from the formation of the ground he expected it had a narrow porch. All trace of the high altar in both abbeys had disappeared, but they had in Grey Abbey the fragmentary remains of single sedilia and piscina on the south. In Inch Abbey there were three seats for the officiating priests. One feature which revealed the Cistercian origin of Inch Abbey was the remains in the south transept of a staircase of stone, which was a well-known feature in a Cistercian church. Three times every night the monks had to enter the church for nocturns, and the stair formed the mode of communication with it from the dormitories which extended over the frater or day-room. The chapter-house at Grey Abbey remained in a more complete state than at Inch, where it was completely gutted and divested of every scrap of architecture. For many years past both ruins were used as quarries to the neighbourhood. A noble quarry was Inch Abbey. Its remains were scattered in many a townland for miles round. The mansion and the hovel alike were built with its time-honoured stones, and the roadways were paved with its hoary *debris*. Churches of all creeds in Downpatrick and for miles round were indebted to the old abbey for most of the stones of which they were built—hideous pointed and whitewashed parallelograms that had been raised up, and were called churches in these latter times. It was matter for congratulation that these venerable ruins were now held in reverend appreciation by their owners, and that, as far as could be done by them, they were being preserved from further dilapidation.

Mr. WATT, architect, said Mr. Phillips was doing a good service in keeping up an interest in those remains, and also in making the proprietors of the ruins feel an interest in them.

The Rev. JAMES O'LAVERTY, P.P., Holywood, said he entirely agreed with Mr. Phillips in everything he had stated in his Paper. In fact, he had cleared up the subject as far as it was possible to do so. There were a great number of modern walls, as they were regarded at present, but he thought, when the matter was thoroughly investigated, that the history of the abbey would account for those walls. With reference to the Irish and English monastic houses, it was a fact that the Irish thoroughly hated the orders that were brought over by the English; and of all, they hated especially the English Cistercians.

Mr. R. YOUNG, C.E., spoke at some length as to several Scotch Cistercian abbeys he had visited—notably Sweetheart, which in one particular greatly resembled Inch in having the tower or stairway in north-west corner of transept. He also referred to the stained glass, which he was certain was not later than fifteenth century work.

Votes of thanks were passed to Mr. Phillips for his Paper, and to Mr. Maxwell, into whose family the abbey of Inch had again lapsed, for the very prompt and spirited manner in which he had undertaken to bring to light the hidden treasures of the abbey remains of Inch.

THE PEABODY MODEL DWELLINGS.

THE trustees of the Peabody Donation Fund have issued their report for the year 1874. As stated in the last report, the amount of the fund on December 31, 1873, was 678,059*l.* 9*s.* 5*d.* To this sum has been added, from rents and interests on investments during the past year, 15,568*l.* 8*s.* 2*d.*, making the total fund on December 31 last, 593,627*l.* 17*s.* 7*d.* During the year the trustees have spent in the purchase of land and the erection of buildings the sum of 80,223*l.* 7*s.* 3*d.*, and the whole amount thus expended since the creation of the trusts has been 380,284*l.* 19*s.* 7*d.*, leaving 213,342*l.* 18*s.* available for future operations. The two new blocks of buildings at Blackfriars, alluded to in the report for 1873, are now occupied by 44 families. The new buildings in Duke Street, Stamford Street, with accommodation for 352 families, are completed, and will be ready for occupation in April next; and the six new blocks in East Lane, Bermondsey, for 72 families, will be opened during the summer. Before the close of the year the trustees will have accommodation for 1,376 families. Considerable progress had been made in the erection of 12 new blocks of buildings on the Southwark Street site, which will contain 264 separate tenements, but these will not be ready for occupation until 1876. The number of families in residence at the end of the year was 954, consisting of 3,815 persons, an average of four to each family. The average rent of each dwelling was 3*s.* 11*d.* per week, and that of each room, 1*s.* 10*d.* No charge is made for water, and the weekly rent includes the use of bath-room and laundry. The net returns from all the buildings now opened show an income of 6,426*l.* 12*s.* 8*d.* per annum, being at the rate of 2½ per cent. upon the capital expended. The buildings last erected not only give to the tenants greater conveniences and larger rooms, but return a higher percentage upon the outlay than those first built. In consequence of scarlet fever having been so extensively prevalent during a portion of the past year in the East of London, the number of deaths in the buildings at Shadwell was beyond that of any previous year; but notwithstanding this, the death-rate in the whole of the buildings, taken together, was only 23 per 1,000. Omitting Shadwell, the death-rate in the other buildings was as low as 17·4 per 1,000. The following table shows the rents charged at each building:—Shadwell—one room, 2*s.* to 2*s.* 3*d.*; two rooms, 3*s.* to 3*s.* 3*d.*; three rooms, 4*s.* to 4*s.* 3*d.* Chelsea—one room, 2*s.* 3*d.* to 2*s.* 6*d.*; two rooms, 3*s.* 6*d.* to 3*s.* 9*d.*; three rooms, 4*s.* 6*d.* Islington—one room, 2*s.* 6*d.*; two rooms, 3*s.* 3*d.* to 3*s.* 9*d.*; three rooms, 5*s.* Spitalfields—one room, 2*s.* 6*d.*; two rooms, 4*s.*; three rooms, 5*s.* Westminster—one room, 2*s.* 6*d.*; two rooms, 4*s.* to 4*s.* 6*d.*; three rooms, 5*s.* to 5*s.* 6*d.* Blackfriars—one room, 2*s.* 6*d.* to 3*s.*; two rooms, 4*s.* to 4*s.* 6*d.*; three rooms, 5*s.* to 5*s.* 9*d.*

THE SAND-BLAST IN STONE CARVING.

At the meeting of the Society of Arts on the 10th inst., Mr. W. E. Newton, C.E., read a Paper descriptive of the sand-blast and its adaptation to industrial purposes.

In this process, which is the invention of Mr. B. C. Tilghman, of Philadelphia, a jet of sand (propelled at a high velocity by a steam or air-blast) is employed as a tool for cutting stone, and for producing ornamental carving on stone and other materials. At a lower velocity of jet it is also employed for grinding and ornamenting the surface of glass. The cutting, grinding, engraving, and ornamenting of glass, stone, wood, and other hard substances are operations requiring a considerable expenditure of time and labour, and some of them a vast amount of skill. The object of the sand-blast process is to economise time and reduce the amount of skilled labour required to produce ornamental patterns and architectural devices in stone, slate, marble, and other hard substances.

This new process in the arts is based upon the fact that when grains of sharp sand are driven with a high velocity against a hard surface, such as glass, stone, slate, marble, wood, or iron, the surface is cut away more or less rapidly.

The greater the pressure of the steam or air which produces the jet, the higher is the velocity imparted to the grains of sand, and the more rapid and powerful their cutting effect upon the surface exposed to their action. When driven at a high velocity, the impact of the grains of sand will cut substances much harder than themselves. Corundum can thus be cut with quartz sand, and quartz rock can be cut by small lead shot. The hardest steel, chilled cast iron, or other metal can also be cut by a stream of quartz sand. The action of sand driven at a high velocity on the hard surface of glass, wood, stone, or slate is very rapid, and if a sheet of plain polished glass be subjected to the sand-blast it will be quickly depolished or ground, but if a portion of its surface be protected by covering it with some soft or elastic substance, such as india-rubber, paper, or other suitable material (cut to any particular pattern or device), all those parts so covered will remain intact, while the exposed surface will be ground or cut away by the impact of the sand. By means of stencil plates, letters or designs can be engraved upon stone, slate, and other hard substances; also by varying the shape, number, and direction of the jets of sand, and traversing them over the work, cuts or holes can be made of any shape or size.

For ornamenting stone, marble, slate, granite, or wood, iron templates made of the required pattern are used to protect the stone or other material from the action of the sand at all such parts as are not to be cut away. These templates, which are of cast iron, are very easily made. The process adopted is to draw or transfer the pattern (either in pencil or ink) on to the surface of a piece of wood of proper thickness, and then to cut out the design with a fret saw. The wooden pattern thus made is used to produce a mould for an iron casting in the ordinary manner. An iron template formed in this manner, and about 3-16ths of an inch thick, may be used 100 times to produce the same pattern on stone of moderate hardness. If made of malleable iron the template will last about four times as long. It will be evident from the above explanation that almost any design an architect may make (however elaborate it may be) can be cut in flat-relief in stone, marble, slate, or wood.

The peculiar feature of the sand-blast process which distinguishes it from the other methods of cutting and grinding is, that each grain of sand acts by its own velocity and momentum, like a bullet or projectile, and pulverises or indents the object it strikes. In consequence of this peculiarity of its action, some substances (which, though comparatively soft, are also tough or elastic, and cannot, therefore, be pulverised by a blow, such as copper, lead, paper, wood, or india-rubber), are less rapidly cut and ground by the sand-blast (particularly at moderate velocities) than much harder substances of a brittle nature, such as stone, glass, or porcelain. A peculiar advantage of the sand-blast is that its action takes place with equal effect upon irregular surfaces, and therefore recesses hardly accessible to ordinary methods of working can be cut. Steam is generally found most convenient for the impelling blast, particularly for high velocities, as when operating on stone or marble, but in some cases air is preferable. Steam of all pressures has been used up to 400 lbs. per square inch, and its efficiency has been found to increase with the pressure.

The sand is fed into a funnel, which is connected by a flexible pipe with an iron or steel tube of any convenient length, and of about 1-6th inch bore. This sand tube is secured exactly in the centre of a brass casing, which forms the steam chamber. The annular space between the two tubes is closed steam-tight at the back end; and at the front end or orifice the casing is shaped with a tubular neck, and brought to the same length as the sand-tube. The neck of the casing is bored out to a diameter of $\frac{1}{4}$ inch for a length of about $\frac{1}{4}$ inch from its end. For about $\frac{1}{4}$ inch in length from the end, the sand tube is reduced to 0.23 inch external diameter, so as to leave a uniform annular opening of 0.015 inch in width, extending backwards for a length of about $\frac{1}{4}$ inch, and then enlarging gradually to the full diameter of the casing. This annular passage forms the opening through which the steam-blast issues. The casing or steam chamber is connected with the boiler by a flexible pipe, so as to allow of the jet apparatus being turned and moved in any direction. A tube, called the nozzle-tube or gun, about 1-3rd inch bore and 6 inches long, made of wrought iron, steel, or chilled cast iron, is fastened on the neck of the casing by means of a set-screw. The end of the sand tube is accurately adjusted and fixed in the centre of the steam aperture, so that the annular opening is everywhere of the same width all round.

The sand used is sifted of even size, and should be clean, hard, sharp, and dry, so as to run regularly through a small hole without clogging. The steam should be perfectly dry, and when used at a distance from the boiler a steam separator should be added to free the steam from condensed water.

In the working of the instrument, the steam, when turned on, issues with great velocity from the annular opening, and creates by suction a current of air through the sand tube. A valve in the bottom of the sand-box is now opened sufficiently to let a stream of sand of from one to two

pints per minute fall into the funnel beneath, whence it passes down the sand-pipe and is carried by the current of air through the sand tube and is sucked into the jet of steam, by which it is driven through the nozzle-tube at a high velocity, and finally strikes against the stone to be cut, the end of the nozzle being held at a distance of about six inches from the stone. The shattered fragments of the sand and stone, partly in the state of very fine powder, escape sideways and backwards together with the steam.

In cutting granite with a steam jet of about 300 lbs. pressure per square inch, an inclination of about one in nine from the perpendicular will make the sides of the cut parallel; but with the same jet acting perpendicularly on rather soft burnt brick or on sandstone, the sides of the cut are almost parallel. Sufficient space must always be allowed for the escape of the waste steam and sand. By directing the blast-pipe successively to all parts over the surface, the stone will be cut down either with parallel sides or with the sides undercut, so as to make a hole of larger diameter at the bottom than at the top. It will now be understood that if a metal or other perforated template, with any desired pattern formed thereon, be placed on the upper face of the stone, the latter will be cut away by the sand-blast at all parts which are not protected by the template.

The quantity of stone cut away by the sand-blast is much greater when ample space is afforded for the free escape of the expended sand and steam after they have struck the stone than when the space is narrow and confined. When a rapid lateral traverse is given to the blast-pipe or to the stone, so that the sand is constantly striking upon a fresh surface, a much greater cutting effect is produced than when the blast is kept directed upon one spot.

Where only a small quantity of material is to be cut or ground away by the sand-blast from the surface of a hard substance, and where only a moderate velocity of jet is required, a blast of air (produced by a rotary fan) is found to be convenient. This method is used for grinding or depolishing glass, china, or pottery, either over their entire surfaces, or for the production of ornamental designs. In engraving designs, air is more convenient than steam for the impelling jet, because with air the sand keeps dry and rebounds, leaving the pattern clear; but with steam the sand becomes damp, and is apt to adhere to the fine lines and corners and clog them. The sand being fed into the air jet by falling from a column of sufficient height, it is carried along by the air in a tube or close trunk, and directed upon the glass, which is held or moved opposite the mouth of the trunk; the sand-jet thus cuts or stars the surface of the glass wherever it strikes it.

When wood is subjected to a sand-blast of moderate velocity, the softer and more brittle portions are more rapidly and deeply cut away than the others, and the grain of the wood and the hard lines and knots are thus brought out in relief.

Not only can many kinds of work which are ordinarily done by hand be produced by it automatically, and at a very trifling cost, but other things can also be done which cannot otherwise be produced at all at anything like a reasonable cost. As an example of this kind, inscriptions can be cut in granite with raised polished letters; the cost of this by hand work would be very great, but it is done by the sand-blast process with great facility and expedition. The mode of executing this work is by first polishing the surface of the stone, and then cementing upon it metal letters forming the intended inscription, and subjecting the whole to the sand-blast; the surface of the stone is by that means cut away uniformly wherever it is not protected by the metal letters; and on removing the metal templates the inscription will be left in relief, with letters polished on the face and finished with fine sharp edges. The operation is effected with a single steam jet moved backwards and forwards over the work at a rate of about 20 feet per minute, and the stone is traversed slowly at the same time in a transverse direction, until the jet has passed once over the surface; the cutting of the specimen shown, 10 inches square and 3-17ths inch depth of cut, required only eight minutes with a pressure of 60 lbs. steam, and it was done with the steam jet exhibited with $\frac{1}{4}$ th inch bore of tube.

The pierced ornamental marble panel exhibited was cut at two operations by placing a thin iron template on one face of the marble, and sinking the pattern half through its thickness by means of the sand-blast; the marble was then turned over and the template fitted upon the other face exactly corresponding in position with the first side, and then subjected to the sand-blast until cut completely through. A perforated design is thus formed, having the edges all regularly chamfered from each face, on account of the tapering form of the holes cut by the sand-blast. The specimen of marble shown, of about half a square foot area and $\frac{1}{2}$ inch thick, was completed in thirty minutes with a steam jet of 50 lbs. pressure, and a similar specimen cut in sandstone was completed in only ten minutes. Another specimen shows a similar design cut in glass to a depth of $\frac{1}{4}$ inch.

When the material operated upon is not of uniform hardness, as in the case of granite (which is an agglomeration of substances of different degrees of hardness), the bottom of the hollows are not cut level, and the harder portions, such as the quartz crystals, are left slightly projecting above the ground. These may be dressed down by hand to finish the work; but in uniform materials, such as marble and slates, the whole is left neatly finished by the sand-blast process. Sunk panels in wood carving are readily produced by this process, but the time required is about twice as long in oak as in marble, on account of the wood having a certain amount of elasticity, which softens the effect of the impact of the grains of sand. In operating upon oak, the greater hardness of the grain of the wood causes the bottom of the hollows to be left uneven; but with boxwood the work is left with a level surface, and the specimens exhibited show a beautiful finish.

In the discussion which followed Mr. ALEXANDER PAYNE said, as an architect, the process appeared to be eminently useful in architectural decoration, but most of the specimens shown were somewhat fine in character. He should like to know whether it could be applied to such purposes as producing the tracery on church windows, and so on, where the apertures were

of considerable size, and what would be its cost as compared with ordinary methods.

Mr. NEWTON said there was no difficulty in executing work of this kind, it was simply a question of the size of the grains of sand. They could use sand as fine as dust, or as large as small gravel, and by raising the steam pressure the work was done with increased rapidity. There was no difficulty in cutting to any required depth, provided there was room for the waste steam and sand to escape. The fact was, however, that this coarser kind of work was done quickly and roughly by hand, and they had not tried to compete with it, but had rather confined themselves to finer work, which either could not be done at all by hand or only at a great expense. For instance, the specimens of engraved granite and perforated marble on the table could be produced for as many shillings as it would cost pounds to do by hand; and they could produce a similar description of work in sandstone, which with the greatest care and the finest tools could not be done at all by the old method. The sand process, however, acted in such a delicate way, cutting away atom by atom, that there was no risk of failure.

Mr. PRANSALL suggested this process might be useful in cleaning and renewing the surface of monuments, obelisks, and public buildings, which might then be coated with some kind of silicate or paint, so as to resist the farther action of the weather. Such an experiment could hardly be undertaken by an individual, but possibly a public company might try it, and if it proved successful, there would be in London alone a great demand for its application.

Mr. NEWTON said it had been tried in this way, and when the surface of the building was covered with what might be called clean dirt, or dust, there was no difficulty about it, but, unfortunately, there was often a coating of soot, which had become converted by time into a sort of gummy substance, which was very difficult to remove.

Mr. TITCHMAN added that the success of the operation in such cases depended in great measure on the kind of stone employed. Many buildings in London were constructed of Portland stone, which consisted of materials of different degrees of hardness, shells and other hard substances being imbedded in a matrix of carbonate of lime. In this case the sand-blast disintegrated the softer material, and left the shells projecting, as might be seen as the result of the action of time in some of the columns of St. Paul's. The accretion of smoke and soot also acted almost like an india-rubber stencil plate in protecting the stone beneath, but if this could be scraped off first, the sand blast would be very useful for cleaning purposes, because it would penetrate into all the recesses of the decoration, and thus leave the design as perfect as ever, instead of wearing away only the projecting portions.

THE NATIONAL GALLERY.

THE first Report of Mr. F. W. Burton, the Director of the National Gallery, was issued on Wednesday. It states that the collection of early Italian schools has been enriched by the addition of fourteen pictures from the Barker collection, sold by auction in London in the month of June, 1874. These works were purchased by a special grant voted by Parliament in August last, amounting to 10,395*l.*—viz.:—1. "Madonna and Infant Christ," by Antonio Vivarini; 2. "Madonna in Prayer," by Cosimo Tura; 3. "The Madonna in Ecstasy," by Carlo Crivelli; 4. "St. Catherine," by Carlo Crivelli; 5. "Mary Magdalene," by Carlo Crivelli; 6. "The Nativity," by Pietro della Francesca; 7. "Madonna and Child," by Benvenuto da Siena; 8. "The Triumph of Chastity," by Luca Signorelli; 9. "The Return of Ulysses to Penelope," by Bernardino Pinturicchio; 10, 11, 12. The story of Griselda, from Boccaccio's "Decamerone," by Bernardino Pinturicchio, in three compositions: "The Marriage," "The Divorce or Separation," and "The Restoration;" 13. "Mars and Venus," by Sandro Botticelli; 14. "Venus Reclining," by Sandro Botticelli. Owing to want of space it has not been possible yet to place all these pictures in the Gallery. Under the head of bequests and donations the director reports that three pictures by the late Thomas Sward Good, of Berwick-on-Tweed, have been bequeathed by his widow, Mrs. Mary Evans Good:—"No News," "A Fisherman with a Gun," "A Study of a Boy." A picture of "Orpheus charming Birds and Beasts with the Music of his Lyre," by Roslandt Savery, has been bequeathed by Mr. S. James Ainslie. A "Portrait of Cardinal Fleury," by Hyacinthe Rigaud, has been presented by Mrs. Charles Fox.

The "Colonna Raphael" still remains deposited in the Gallery, but it is not exhibited, and the trustees are absolved from all responsibility while the picture remains under their care. The special loan selections of Turner's Sketches are at present, one set in the National Gallery of Ireland, at Dublin; another set, with the Bristol Fine Arts Academy; the third set is now in London, having been returned by the National Gallery of Scotland, where the exhibition has proved so satisfactory that the Board of Manufactures has expressed its desire for the loan of the third selection prepared, when available.

The following works, having become much disfigured by blisters, or obscured by cracks, have been carefully repaired, and re-varnished:—"Portrait of a Lady, as St. Agatha," by Sebastiano del Piombo; "The Holy Family," by Andrea del Sarto; blistered; now protected with glass; "Diana and her Nymphs Bathing," Vernon collection, by Thomas Stothard, R.A.; "The Philosopher," Vernon collection, by Henry Wyatt; "Wood Nymph," Vernon collection, by Thomas Phillips, R.A.; "The Old Fair at Littlehampton," Vernon collection, by Sir A. W. Calcott, R.A.; "The Hop Garland," by W. F. Witherington, R.A.; "View of the Maas near Rotterdam," by Abraham Storck.

During the year 1874, 25 pictures have been protected with glass, 12 foreign and 13 British, making the total number of oil and tempera pictures so preserved from surface dirt and moisture 338.

The collections at Trafalgar Square and South Kensington have received during the year 17,602 visits from students; and independent of partial studies, 419 oil-colour copies of pictures have been made, 140 from the works of 48 old masters, and 279 from the works of 40 modern masters.

The pictures by old masters most frequently copied were Rubens' "Chapeau de Paille" and Cuyt's "Ruined Castle," six copies being taken of each. Sir Edwin Landseer seems to have been most in favour among the masters of the English school. Twenty copies were made of his "King Charles's Spaniels," and twelve each of his "Hunted Stag," "Dignity and Impudence," "Shoeing," and from eight to ten copies of his "Alexander and Diogenes," "High Life and Low Life," "Highland Dogs," and "Highland Music." Reynolds's "Heads of Angels" were copied eleven times, "The Age of Innocence" eight times, and the "Infant Samuel" four times. The other works copied were Gainsborough's "Mrs. Siddons," Hoppner's "Lady Oxford," Leslie's "Uncle Toby," Newton's "Yorick and the Grissette," Collins' "Happy as a King," Etty's "Bather," Uwin's "Chapeau de Brigand."

The galleries in Trafalgar Square and South Kensington have (assuming that all the visitors to the Museum attend the picture galleries) been visited by 1,721,431 persons on the public days, during the year 1874; 807,304 at Trafalgar Square, and 914,127 at South Kensington. The daily average attendance at Trafalgar Square, open to the public 188 days, has been 4,291 for 1874; for the year 1873 it was 4,410.

PARLIAMENTARY PROCEEDINGS.

MONDAY, FEBRUARY 15.

The House of Lords Frescoes.

Mr. HANKEY asked the First Commissioner of Works whether he had obtained during the Recess any opinion as to the possibility of restoring the two Maclise Frescoes in the Queen's Gallery of the House of Lords, and, if he had, whether he would lay a copy of such opinion upon the table of the House.

LORD HENRY LENNOX: In consequence of the representations made by the hon. member for Peterborough as to the state of Maclise's great water-glass pictures in the Royal Gallery, I, at the close of the Session, addressed myself to my noble friend Lord Hardinge, and he was good enough to accede to my request and consent to preside over a small committee. Beside Lord Hardinge, I was fortunate enough to obtain the co-operation of Sir W. Boxall, Mr. Ward, and Mr. Richmond. Mr. Watts had also agreed to give me his valuable help, but was prevented by illness from attending. The committee met several times in the Royal Gallery, and made a minute examination of the pictures. After that they made a unanimous report to me that they were strongly of opinion that by a simple process the decay might be arrested. They also added that if I would give the necessary permission, Mr. Richmond would, with great public spirit and at a great loss of valuable time, personally superintend this difficult and delicate process. Under such circumstances, I had no hesitation in assuming the responsibility; and I am very happy to say that the result has been attended with the very greatest success. With regard to papers, I have only the report of the committee, signed by Lord Hardinge, enclosing a separate statement, from Mr. Richmond, detailing the process by which this good result has been obtained. These papers I shall be happy to lay on the table of the House.



The Royal Gold Medal and the Royal Institute of British Architects.

SIR.—The leading article in the last number of the *Architect* upon the proposed award of the Royal Gold Medal for 1875, is most opportune; and it is well, perhaps, that others, so disposed, should follow its lead, and endeavour to give to the recommendation of the Council that hearty support which it merits at the hands of the profession generally.

It has been too common to look with suspicion, if not openly to find fault with everything done, or proposed to be done, by the Institute; and members of the Council have been regarded as a privileged body, whose conservative instincts were always opposed to progressive action.

The growth of this feeling has been coeval with the system of exclusiveness, distinguishing the charter and bye-laws. In fact, it commenced with the foundation of the society, and has intensified since just in proportion as the principle of the election and privileges of its constituents has ceased to be the true exponent of the feeling of the times. Thus, the invidious distinction between professional surveyors and practising architects still remains; the integrity of the former is considered unequal to the latter, whose superior virtue, however, is less in "capability than action, even from the absence of temptation."

And so it comes to pass that in the new conditions of contract agreed with the builders, Fellows of the Institute are alone considered fit to arbitrate in any technical matter in dispute. From this Fellowship surveyors are excluded (abstract principles of the "survival of the fittest," notwithstanding), though themselves properly educated, and practising as architects, and in some cases being the sons of architects of eminence.

The class of associates provides for surveyors and others short of seven years' standing as practising architects; but they have no status, and may not vote.

'Tis said there are a class of students, but where are they? Certainly it is not from this class that the successful competitors for the Institute prizes are drawn.

The Institution of Civil Engineers gives their associates a certain status, grants them the privilege of voting, and admits upon their council as representative members of that class.

For some time the engineers had no students to speak of. A class of graduates existed which excited no more interest than the class of students at our Institute; but with the peculiar facility possessed by the engineers of keeping themselves *en rapport* with the genius of the age, they have abolished the dreary graduate-class, and reconstituted a genuine students' class based on liberal and expansive principles which has proved successful. These students have their own classes, read their own Papers, and conduct their own discussions under the presidency of some member of the Institute "well up" in the subject of the Paper to be read, whose summing up is of great value, and whose approval of a well-written Paper is often the turning point in the career of its author.

In effect, the Institute of Civil Engineers has an "Architectural Association" as it were within itself, the members of which are the students of the body corporate, and derive all the benefits of mutual encouragement, emulation, and sympathy, while at the same time they can claim the privilege of association and assistance from their superiors of the Institute.

The following passage from the article already referred to has suggested to me the foregoing remarks:—

"Nor are we loth to admit that there would be a little appropriateness at the present moment in the principle that, after so many years of the administration of the gold medal upon such a different basis, the interests of the rising generation should be for once considered, and what may be called the choice of the adolescents accepted for their own sakes."

A happy compliment is paid to Mr. Sharpe's disinterestedness in the words above quoted. I have already had my say concerning his personal character and abilities; and, after twenty-four years' practice, have recorded my gratitude for the books which were the study of my pupillage, the knowledge of which works inspired me with the desire to accompany their author on each of his recent excursions, originated for the benefit of the members of the Architectural Association, and my later experiences have fully confirmed my early prepossessions.

This measure of justice on the part of the Institute encourages me to hope that it is on the eve of very important modifications; that the example of kindred institutions will not be lost upon it; that consideration for one class in the Institute (that class being the "Fellows") shall not be the sole inspiring influence in the future action of the body corporate; that the class of associates shall have an equal status to that of the associates of the engineers; that the class of students shall be organised afresh, and become an element of strength and vital interest.

In recognising the merits of Mr. Sharpe, the Council has not only done honour to the worth of the proposed recipient of the gold medal, but also to itself as a discriminating body of judges.

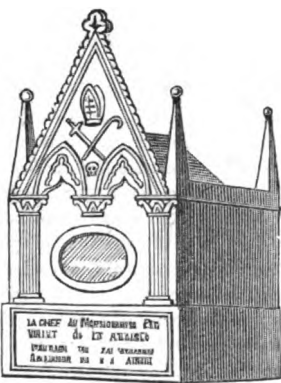
The nomination is certainly popular with the junior members of the profession, whose advancement he has laboured so earnestly for the last six years to achieve; and it is they who best know what he contemplates doing in the future by pen and pencil, and personal countenance and leadership. But it is not less popular among the elder members of the profession—his contemporaries and rivals of former days—and it is most fitting that the greatest practitioner of English Mediæval architecture should fill the presidential chair on the occasion of the nomination of its greatest illustrator.

Your obedient servant,

EDW. C. ROBINS, Fellow.

Skull Boxes in Brittany.

SIR,—In Mr. Fulford's Paper, read before the Association last week, mention being made of the skull boxes to be found in the churches and cemeteries of Brittany, I send you sketches of these curiosities, which are noticeable throughout Finisterre and Morbihan. No. 1 is of the ordinary type, and presents at a distance the appearance of a small dog-kennel. No. 2, which I found at the cathedral of St. Pol de Leon, occupying a prominent position in the chancel aisle, contains an episcopal skull. It is



painted black and gilt, and has the following inscription on the base:—"Le chef de Monseigneur Pré Nébout de la Broussé 62ième Eveque de Leon Siege 29 ans mort 7bre 1701. Requiescat in pace. Amen." Very little reverence appears to be shown to these relics, for they are frequently piled up in disordered heaps as so much lumber. And this seems remarkable when we take into consideration the proverbially superstitious character of the Breton race. Witness the numerous calvaries in Finisterre, the quaint wooden crosses which greet one on the roadside and on the outskirts of the smaller towns, and the peculiar feature common to some of the principal churches, notably at St. Pol and Quimper, the inclination of the chancel to the left of the axis of the nave, symbolical of our Saviour's position on the cross.

I am, Sir, your obedient servant,

Carlton Chambers, February 16, 1875.

ALEX. GRAHAM.

General

An Exhibition of the paintings by Mr. John Linnell, sen., will be opened at the Pall Mall Gallery next week.

The Exhibition of the Society of Painters in Water-colours will close on Saturday next, the 27th inst.

The Royal Hibernian Academy Exhibition of painting, sculpture, and architecture opened on Monday last.

Papers will be read on Tuesday at the Institution of Civil Engineers on the "Working of Railways," by Mr. George Findlay; on "Sorting Railway Trains by Gravitation," by Mr. William Cudworth; and on "Railway Statistics, 1873-4," by Mr. John Thornhill Harrison.

Mr. T. Roger Smith is to read a Paper on "Roman Houses" to the members of the Builders, Foremen, and Clerks of Works' Provident Institution, on March 17.

Mr. William Simpson will commence a series of lectures on Art at the City and Spitalfields School of Art on Monday evening next.

Mr Warrington Wood has finished his large marble group, "St. Michael overcoming Satan." It is now on its way from Rome, and will appear in this year's Exhibition of the Royal Academy. The sculptor received a commission from Warrington for the group.

Messrs. Fletcher, Lowndes & Co., of Great George Street, Westminster, have obtained the contract for the erection, furnishing, and completion of the Bournemouth Winter Garden; the works are to be commenced forthwith.

A Portrait, in oils, by Mr. George Richmond, R.A., of Mr. Hancock, of the Charing Cross Hospital (at one time president of the College of Surgeons), was presented to the latter on Wednesday.

A Bust of the late Canon Kingsley, by Mr. Woolner, R.A., is to be placed in Westminster Abbey.

A Stained Glass Window has been erected in the choir of St. Giles's Cathedral, Edinburgh. It was designed by Mr. Robert Herdman, R.S.A., and executed by Messrs. Ballantine & Son, who have two other windows for the choir in progress.

A Masonic Hall is being erected at Bridlington Quay, from the designs of Mr. William Bakewell, of Leeds, with Mr. Hudson as contractor. The foundation stone was laid by Mr. J. P. Bell, P.G.D., of England, on the 1th inst.

The Art Committee of the Yorkshire Exhibition at Leeds contemplate dividing the picture gallery into four compartments, each about 120 feet long, and arranging the paintings according to age, schools, or character. The buildings are progressing rapidly.

The Tower is to be opened free on two days in each week.

Plans have been prepared for the drainage of Ashton-upon-Mersey, and the Local Government Board have been applied to for authority to borrow 24,000*l.* to carry out the works.

The Metropolitan Board of Works have consented to pay the moiety of the cost, estimated at 9,000*l.*, of erecting and bedding the canal bridge at the entrance to the Regent's Park at Church Gate, and also the bridges in Chalk Farm Road.

The Westminster Board of Works have decided on the adoption of wood pavement for the roadway of Parliament Street, provided they can obtain from the Government any intimation as to the widening of the remaining narrow part of the street. It appears obvious that the street must be widened as far south at least as the Whitehall Club, and the Board are very unwilling to enter on a large expenditure which might in the course of a few months be thrown away.

The Freemasons of Bath have determined to undertake the restoration of the carving and sculpture on the western front of Bath Abbey, and subscriptions are now being raised for the purpose. During the past ten years the sum of 20,000*l.* has been expended on restoring the exterior and interior of the Abbey.

A Prospectus has been issued of "the Edinburgh Winter Garden, West End Theatre, and Recreation Halls Company (Limited)." The capital is to be 65,000*l.* The company have secured a site in Castle Terrace, and they contemplate erecting a music hall, theatre, winter garden, and aquarium.

At a Meeting held on Tuesday, in Salisbury Close, it was decided that the proposed Memorial to Archdeacon Hony should assume the form of a pulpit, probably of stone, to be erected in the nave of the Cathedral.

The Clyde Trustees have acquired Lancefield Dock from Messrs. Napier for the sum of 35,000*l.* This gives the Trustees the entire control of the north side of the river.

Forthcoming Contracts.

Tenders are just now delivered for a new Military Brigade Depot at Halifax. Result not yet known.

Tenders are immediately required for the erection of schools, &c., at Barkstone, near Grantham. Mr. Thompson, of Grantham, architect.

Tenders are required for a temporary building near Burdett Road, Bow, for Messrs. Moody and Sankey, the revivalists. Mr. E. Gregg, architect.

Surveyors will shortly be appointed to prepare the quantities for a new Brigade Depot at Caterham.

A new parish school is immediately to be erected at Wellbourne, in Lincolnshire. Mr. Watkins, of Lincoln, architect.

The Architect.

WORKING-CLASS DWELLINGS BY CONSERVATIVE ACT OF PARLIAMENT.



POLITICS lie out of our field; but when a policy of building happens to become associated with the policy of party, we may at least be excused for acknowledging the fact that party exists. So it cannot be denied that at present the Conservatives are in power, and it seems pretty plain that the Conservatives have taken up with something like a will the question of working-class dwellings. Whether any permanent good is to come of this may be a matter of opinion; indeed we may be permitted to suggest, with much respect for the Tories, and not an iota more for the Whigs, that neither either party in its political capacity is to be trusted with such a subject at all may be a matter not even of opinion; but, at any rate, if the present Government are only making a bid for popularity, on the ground which has been hitherto sacred to PEACEDIES and BURNING-COURTAINS, far be it from us to suppose it to be any otherwise than with the honest intention that the working people shall be allowed to turn it to their own personal advantage, if they can, quite as much as to use it for the honour and glory of a party in Parliament. Amongst other oddities in this sort of course there is the principle that our great reforms are not carried for our great reformers; none but a shallow politician looks upon it as matter of course that it is the popular tribune who in earnest enthusiasm is entitled to give the poor man a vote, and the poor voter a decent dwelling; it has been the hereditary defender of the *status quo*, on the contrary, who, equally without enthusiasm and without reserve, has but recently bestowed the reformed suffrage, and it is the same placid partisan who in the same circumstances is now to bestow the reformed dwelling. And by all means so let it be.

Be this, however, as it may, the question remains whether it is desirable for the State, under any conditions whatever, to provide houses for the artisan-class, or even to encourage their being provided, out of the common groove of business and independently of the common law of supply and demand. This indeed the Home Secretary, when introducing the Government measure in the House of Commons, very fairly in the abstract admitted. The Bill proceeded, he said, entirely on sanitary ground, for it was not the business of the State to interfere with the commercial aspect of the case, either in directly providing this particular class of the community with this particular necessary of life, or in indirectly encouraging the municipal authorities to do so, at a lower price than that of the open market.

What, then, is it that the Government propose to do by their "Artisans' Dwellings Improvement Bill"? If that "necessary of life" which we call a decent and comfortable lodging is to be supplied to the working classes of England by the ordinary commercial process only, and at nothing else than the standard market price of the day, why should Parliament intervene at all? The answer, we suppose, is as follows. As regards the extension of towns, the demand for artisans' dwellings is to be left to operate in the usual way and to induce a sufficient supply as it best can. For the open country at large nothing is to be attempted at present. Even the building of new houses for working class requirements in the heart of our towns is to be left entirely to itself. But the demolition of those unwholesome old houses which have so long been denounced in every town of importance throughout the kingdom is a thing that an endeavour shall be made to expedite; and, while we are about it, the rebuilding shall be judiciously directed into one channel rather than another.

Let us take as an instance the proverbially characteristic slums of St. Giles's, and this is what is intended to be done. The public medical officials having first been led to prepare a representation that the permanent disease or death-rate of a certain locality is excessively high, this representation is delivered to the Metropolitan Board of Works. Investigations being then set on foot, it is declared that the cause of unhealthiness is to be found in the ill-favoured arrangements of the house property. The dwellings are decrepit, decayed, damp, and mouldy, and their rotten emanations poison the air within. The back yards are no less pestilential without. The drainage is past redemption, and the whole ground soaked with impurities. The thoroughfares which are called streets are close and reeking alleys. The population are in these melancholy circumstances all the more crowded, and all the more disposed to let their miseries multiply because they are so miserable. The doctors go so far as to assert that these dismal accusations, whether urged in whole or in part, can only be fairly met by sweeping away the entire rookery with the beam of destruction and making *tubula rasa* of the piece of honest mother-earth which it has cumbered so long. Perhaps as a pre-

liminary step there may have been the submission of a complaint by "twenty ratepayers" on behalf of the public to this very effect; but whether or no, the medical report is taken into consideration. If the Metropolitan Board cannot see their way to do anything, nothing is done; but if they can, they prepare an "improvement scheme" for the condemned locality. The rotten old houses, with their narrow lanes and confined yards, are replaced on paper by comfortable dwellings, standing on new thoroughfares, and duly lighted and ventilated by such light and air as St. Giles's can afford. This plan of the municipal authorities is next submitted to the Home Office for the approval of the imperial authorities, without which it cannot be carried farther. Supposing such approval to be accorded, the case then goes to Parliament. This is in order to obtain compulsory powers for purchase. The bill being then duly passed, if so, by Commons, Lords, and Crown, the "scheme"—modified a little, perhaps, in the course of its long probation—goes back to the Metropolitan Board for execution, with full powers to that body to acquire the old property, and to dispose of the land for the new property as laid out by the plan.

Now let it be at least observed that all this has manifestly nothing whatever to do with the building of artisans' dwellings; and the political economist may not unreasonably say that any attempt to introduce into such a transaction a provision for promoting that special kind of building must necessarily amount to a direct disturbance of the operation of the law of supply and demand. In fact there are many localities in London in which the tumbledown houses of the poor are at this moment only waiting for the lapse of some incidental obstruction in order to be immediately obliterated in the extension of the business quarter adjacent—a thing not only inevitable in fact but vitally important in principle. But the Government Bill stipulates that care is to be taken, from the first to the last, to make due provision in the "scheme" for supplying, and indeed perpetuating, what we may possibly denominate an equivalent of some sort for the working-class houses removed; and we may suppose it to be a general instruction to the Metropolitan Board and other local authorities to keep this essentially in mind in the initiation of their proposals, and to the Home Office none the less to apply to all such proposals this test.

Whether anyone is sufficiently sentimental to hope for a profit to arise out of these operations we cannot say; but, if the statistics of the late Sir WILLIAM TYTE and others are to be relied upon in the future as they have been proved trustworthy in the past, we must simply prepare ourselves for a loss of 50 per cent. as a minimum on every transaction that may be carried into execution under the Ministerial measure, if it should become law. That is to say, if we sweep away some of the back slums of London—or any other large town—and let the law of demand operate fairly in the creation of a much-needed new thoroughfare with its high-priced frontages, one half of the total investment must be given up for lost. But if we are to admit into the speculation the element of disturbance which corresponds with what is called taking care that new houses for the artisan class are built, what addition may have to be made to this sacrifice it is not easy to tell; and Mr. CROSS may therefore fairly be asked to reflect a little before he commits himself again to the proposition that his Bill does not interfere with the commercial principles of the case.

The losses, at all events, whatever they may amount to, are to be made good from that happy-go-lucky source "the rates;" and this condition naturally brings up several considerations. In the first place, does not this plainly point to the supply by the municipal government, under the encouragement of the State, of that "necessary of life" called workmen's dwellings, if not at less than their local value as a rental, certainly at less than their cost as an investment? Secondly, may not the people of the surrounding locality be found to resist, and with good reason, not merely this general sacrifice of "the rates," but more particularly that spurious Conservatism (we employ the term in no political sense) which would perpetuate amongst them the very thing they desire to get rid of, namely, a nest of mean dwellings and a colony of pauper residents in the heart of a commercial quarter whose business demands extension before all other considerations? Nor is this all; for is it not well known already that, in this matter of cheap dwellings, the squalid poor, whose need for improved accommodation is most intensely urgent, are at every opportunity supplanted by the not uncomfortable rank above them, and these again by certain still superior classes who, although by no means undeserving in themselves, are certainly not artisans?

What has been urged in this journal on former occasions with regard to the subject in hand may be again repeated; however well intentioned and however ingeniously devised these projects for improving the dwellings of the working classes may be, the problem how to benefit in this way the mass of those whose present dwellings are so deplorable is practically left untouched. We are loth to conclude that it is one which admits of no solution; and we are glad to welcome every contribution, however small, towards the amelioration of that terrible domestic discomfort which every one who himself enjoys a comfortable home, however humble, must regard with sorrow and dismay; but at the same time, if the problem is ever to be solved, and if the poor man who keeps himself clear of drink is ever to be really supplied with a decent lodging at a price which he can pay, we very much fear it is not to be done at the drawing board.

If, instead of charging the long suffering rates with still further burdens in order that new houses shall be built, the legislature were to adopt the meaner policy of carrying on a guerilla warfare against the old houses which ought to be unbuilt, might not this be both a safer and a larger measure after all? Compel cleansing; compel repair; prevent overcrowded letting; enforce the proprieties of life; ruthlessly pull down unwholesome houses; make rotten property too hot for its owners to hold; and then leave the rest to the law of supply and demand. There seems to be a notion prevailing that it is the *houses* that are in fault; why not take it to be the *owners*? If the rookery of which we have been speaking is found to be a nest of disease and death, why deal so gingerly with it? When we hang a man we do not go to Parliament for "compulsory powers," the man is hanged and his friends must make the best of it. Pull down the rookery, therefore, and let *its* friends make the best of it.

THE ARCHITECTURE AND COSTUME OF SHAKESPERE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

Henry VIII.

WE have now reached the last of what are called "the historical plays." With the death of RICHARD III. we saw the end of the consecutive series which, beginning with RICHARD II., carried us through six reigns to within three years of a century. A.D. 1485 was the last date we had before us. We pass by HENRY VII., the wickedest as certainly as he was the richest prince in Europe, and we do not take up the chronicle again until twelve years have passed over the crowned head of that coarsest of English princes, whose chief boast is said to have been that he "never spared a woman in his lust, or a man in his anger." The sequence of events as related in the drama begins in the spring of 1521 with the arrest of the Duke of BUCKINGHAM, and ends with the birth of ELIZABETH, which took place in the autumn of 1533, the year before that important one in the history of England when the exercise of the power of the Papal Court in this land was formally declared by Act of Parliament to be illegal. To show how far SHAKESPERE has followed the real history of these twelve years, I give here a brief record of the time, as I have done in my notes on the other historical plays:—

1521. The Duke of BUCKINGHAM arrested. Tried by the Peers May 13, and executed May 17. BUCKINGHAM was charged with having entertained designs on the Crown as early as 1511, with having had his horoscope cast by the ZADKIEL of the period, one NICHOLAS HOPKINS, a Carthusian monk, and with plotting the death of the KING, WOLSEY, and others.
1528. Oct. 7. Cardinal CAMPEGIUS arrives in England from Rome with a commission to try, conjointly with Cardinal WOLSEY, the question of the KING's marriage with his brother's widow, KATHERINE. The two Cardinals wait on the QUEEN.
1529. May 7. The Cardinals open their commission at the Monastery of Black Friars. Witnesses, including the KING and QUEEN, are summoned, and the real business commences June 18, on which day the QUEEN enters a protest against the Cardinals as judges. She appears before the Court again June 21, and this time in the presence of the KING, but will not admit the legality of the tribunal, leaves the Court, and is held contumacious. On July 30 the Cardinals adjourn to October 1, secretly aware that the POPE had, on July, 18, allowed the cause to be tried at Rome.
1529. Aug. The KING takes his autumn tour with the light graceful-mannered ANNE BOLEYN; receives the legates at Grafton, dismisses them, and never sees WOLSEY again.
1529. Oct. 9. Cardinal WOLSEY takes his seat in the Lord Chancellor's Court, and the ATTORNEY-GENERAL indicts him in the Court of King's Bench for acting contrary to the Statute of Provisors (25th EDWARD III.).
1529. Oct. 17. The Great Seal taken from WOLSEY and given to Sir THOMAS MORE.
1529. Oct. 28. The judgment of the Court of King's Bench is pronounced, and the Cardinal receives sentence of imprisonment and forfeiture of goods.
1530. Feb. 12. WOLSEY, weak and ill, is pardoned by the KING, who sends him money and plate, and grants him the revenues of his archbishopric. He retires to York, and lives in the exercise of his church duties through the spring, summer, and early autumn; but on November 4 he is arrested at his palace of Cawood for high treason by the Earl of NORTHUMBERLAND, is taken towards London, falls seriously ill on the road, and dies at Leicester November 20.
1532. May 16. Sir THOMAS MORE resigns the office of Lord Chancellor.

1533. Feb. 21. CRANMER appointed Archbishop of Canterbury.

1533. May 23-28. CRANMER, at his court held at Dunstable, decrees the marriage of the KING to his brother's widow to have been invalid, and his union with ANNE BOLEYN lawful. A few days after, KATHERINE—was still "contumacious" enough to dispute CRANMER's right to judge, and too old-fashioned and obstinate to see the beauty of separation without mutual consent—was removed (some say by force from Amptill to Kimbolton, where she died January 7, 1536).

1533. Sept. 7. ANNE BOLEYN gives birth to the "princess" ELIZABETH at the royal manor or palace, Greenwich.

The clamour against WOLSEY for illegal exactions and unjust taxation did not arise until some years after BUCKINGHAM's death and to restore himself to the KING's favour WOLSEY presented himself to the sovereign with his newly-built palace of Hampton Court. With this exception, the *first Act* is a thoroughly consistent historical picture of the early days of the month of May 1521.

The *second Act* begins in the afternoon of the day of the trial of the great Duke of BUCKINGHAM, May 13, 1521, but before the first scene closes we hear the news that "Cardinal CAMPEGIUS is arriv'd" from Rome, and the second scene confirms the report by the presentation of the CARDINAL to the KING, which, as we have above seen, was not earlier than October 7, 1528. In the third scene, "ANNE BULLEN" is created Marchioness of PEMBROKE, an event which really happened in September 1532, and then we go back to 15 for the next scene—The trial of Queen KATHERINE. Act III. begins by reversing history, and making the visit of the Cardinals to KATHERINE to follow instead of to precede the trial, and the rest of the Act is devoted to an entirely mythical account of the fall of WOLSEY, made at the end worse than mythical by CROMWELL's premature announcements concerning CRANMER and the Lady ANNE. The fourth Act begins and ends in June 1533, but GRIFFITH's news about WOLSEY's death is just as tardy as CROMWELL's news in the last Act was premature. The fifth Act occupies three days in September 1533, but the Lord Chancellor, Sir THOMAS MORE, had resigned long before CRANMER had been made Archbishop, and the insults offered by GARDINER and others to the latter at the Council board did not occur till some time after the birth of ELIZABETH.

The scenery throughout the play is architectural, and is laid in London and Westminster, with the exception of an interior in Kimbolton Castle (Act iv. Sc. 2), and the last act, which takes place at Greenwich. If, further, we deduct the fourth scene of the second Act and the two streets in Westminster, we shall find nothing else but palaces to deal with; so that we may arrange our list of scenery as follows:—

- Streets. Two in Westminster. (Act ii. Sc. 1; Act iv. Sc. 1.)
Castle. Kimbolton. (Act iv. Sc. 2.)
Monastery. Blackfriars, London. (Act ii. Sc. 4.)
Palaces. Westminster. (Act i. Sc. 1, 2, 3; Act ii. Sc. 2, 3.)
Bridewell. (Act iii.)
Greenwich. (Act v.)
York Place. (Act i. Sc. iv.)

The first street scene (Act ii. Sc. 1.) is fixed by the text, and must lead from Westminster Hall to the Palace Stairs or landing place for Sir THOMAS LOVELL, who is the officer in charge of BUCKINGHAM, as he leaves the Hall, says:—

To the water-side I must conduct your grace;
Then give my charge up to Sir Nicholas Vaux,
Who undertakes you to your end.

On which VAUX immediately calls out:—

Prepare there,
The duke is coming; see the barge be ready;
And fit it with such furniture as suits
The greatness of his person.

Whether the direction of the river be across the stage or up the stage, or diagonal to it, matters very little. Such a scene, managed with a little care, cannot fail to be highly effective. We see the old timber houses of Lancastrian and Plantagenet reigns crowding their gables one against another. We see the water-gate, the beginning of the steps, and the bargemen waiting for their orders; there, too, is the rabble many who in all times have liked to look on the interesting spectacle of a man burdened with a huge weight of trouble; there are the tipstaves, the halberdiers, and the officers; there are merchants, gentlemen, and some foreigners, too, who have come up from the city to see the trial of the "bounteous BUCKINGHAM, the mirror of all courtesy," and who, like gentlemen, "stand close"—that is, retired and as privately as may be, that the condemned may not see them. Over all, while the sparrows are twittering on the roof, and the pigeons cooing on the penthouse, the afternoon sun of a bright May day throws long shadows on the ground, and makes, by contrast, a very horror of the sorrow. It is a month later and twelve years after this sad scene that we find ourselves again in a street at Westminster. Two of our old friends, who stood close in private talk to see the last of BUCKINGHAM, are here to see the first of the new QUEEN as she comes in state from her coronation to the palace of Whitehall or York Place. It is

broiling sunny day in June, both sides of the street are in sunlight, but there are deep shadows under the many projections of the overhanging storeys, and strong shade on all the jutting angles. At the far end of the street rises cool and grey the north transept of the Abbey, with the wear and tear of three centuries upon it, but otherwise unchanged since its erection in the time of the third HENRY. By no means built in a straight line is it, this street which leads from the Abbey to Whitehall; there are also cross-lanes or streets, and the narrow thoroughfare widens out as it reaches the boundary-wall of WOLSEY's garden, so that here again we see how great is the opportunity for stage effect, if our scenic artists will but follow the truth so far as it can be ascertained.

Of Kimbolton Castle I know nothing.

The Monastery or Priory of Blackfriars or Dominicans was founded in 1276 by ROBERT KILWARDBY, Archbishop of Canterbury, under license from the Crown, on a site adjoining and including the site of a portion of the city wall and one of the towers thereof. The old materials of the fortification were used in constructing the Priory, and a new city wall was ordered to be erected on a line going westward from Ludgate behind the houses to the river Fleet, and then southward to the Thames. A new tower for the KING's reception was also ordered to be built at the head of the wall, "within the water of the Thames there, wherein the KING might be received and tarry with honour to his ease and satisfaction in his comings there." The style of architecture for this great scene might very justly be that which prevailed in the time of EDWARD I.—in other words the style of the North Walk of the Cloisters at Westminster. The interior, up to a certain height, would be covered up by the fittings of the Court, which were prepared with all deliberation, and to produce an imposing and solemn dramatic effect. Indeed all the externals of the reign of HENRY VIII.—the ceremonies of state, the masques, the feasts, the public business, the public pleasures and amusements—seem to have been designedly conducted in a dramatic, and sometimes even a stagey, manner. The arrangement of the royal throne under its "cloth of state" or dais, of the judges' bench below it, and of the peers' seats each side, of the tables, the position of the clerks, &c., are all well indicated or suggested by the stage directions in the play. The general plan would be much the same as that we see in the arrangement of the present House of Lords. But as the fittings were all set up for the occasion, they were necessarily in great part of a temporary character, concealed by hangings, dossels, cushions, and covers of sundry kinds. Below the cardinals sat the officers of the court (the chief clerk and the apparitor), and on the other side of the table, facing the officers, the Cardinals, and the KING, sat the Archbishop and Bishops; on one side of the table was ranged the strong array of the counsel for the KING, and on the opposite side the five counsel for the QUEEN, who sat near them, but at some distance from the throne.

Of the four royal palaces of Westminster, Whitehall, Bridewell, and Greenwich, nothing is left to us except the great hall of that at Westminster. Bridewell was an old fortified place, and was rebuilt by HENRY VIII. for the reception of the EMPEROR's retinue on the occasion of his visit in 1522. Whitehall, or York Place, was built by HUBERT DE BURGH, Earl of KENT. It was afterwards bought by WALTER DE GRAY, Archbishop of YORK, 1216-1255. On the fall of the Cardinal of S. Cecilia it came into the possession of the Crown, and was the chief residence of the Court from 1530 to 1697, when the old buildings were destroyed by a fire. York House was in great part rebuilt by the Cardinal, whose lavish expenditure, on a very doubtful kind of art, was only exceeded by the KING, of whom it is recorded that he expended on his new walnut-tree bedstead for Whitehall no less than 86l. 3s. 10d. (old value), irrespective of the fees due to one Master WILLIAM, who devised the work and instructed the workmen. The palace or manor at Greenwich was a fifteenth century structure, considerably altered and rebuilt by HENRY VIII.

The palatial scenes in this play must therefore be constructed (1) on such evidence as we can obtain from documentary authorities, and (2) on the evidence of contemporary buildings which yet exist.

Foremost among these are the accounts of the Surveyor-General in the *MS. Additional 10,109*, and WOLSEY's Palace, Hampton Court. The unfortunate BUCKINGHAM was rebuilding his palace at Thornbury when he was arrested (the work was begun in 1511), and the extensive remains of this mansion, as well as the "Boke of the Surveye," are invaluable authorities for the scene painter, if used with judgment. In "Examples of Gothic Architecture," by the late A. W. PUGIN, are a large number of engravings from measured drawings of Thornbury, and in PARKER's "Domestic Architecture of the Middle Ages," the "Boke of the Surveye" is largely quoted. WOLSEY's work at Hampton Court was finished in 1526. The date of the chapel and dining-chamber would appear to be later, as we find in these rooms HENRY's initial, bound by a love-knot, to that of JANE SEYMOUR, who became his queen in 1536 and died in 1537. Of the style of the different scenes in these four palaces I have not space enough now to speak; but of their elaborately carved furniture, of the marvellously rich hangings, "wrought with gold as thynk as cowl be," of the "chambres of Pleasance," with their white silk and linen hangings, rich carpets, and bright matting, the 3rd vol. of PARKER's "Domestic Architecture" will afford abundant information.

Next week I will refer to the question of costume.

SEVERITY IN CHURCH ARCHITECTURE.

BY AN OCCASIONAL CORRESPONDENT.

(Continued from page 105.)

IT would be trenching on too wide a subject to demonstrate what the treatment of the colouring should be. If the matter is left in the hands of a competent artist, with a proper supervision of the architect himself, there is not likely to be any fear of too gaudy a treatment. In the pamphlet written by Mr. Edmund Sharpe, to which I have before alluded, it is said that whenever the effect of colouring is to attract the eye more than the form of the design, colour is an impertinence. He adds:—

"If you wish effectually to take all light and shade out of a moulded arch, you have only to paint it. All the glorious effects produced by a flood of sunshine on the rich series of mouldings that clothe and charm the pier arches of our English cathedrals are irremediably lost the moment they are painted; the delicate transition from light to dark, on a rounded projection; the sharp line of bright light carried along the bordering fillet, and the dark shadow by means of which the deep adjoining hollow throws the two former into high relief, are altogether lost in a painted arch. The delicate natural play of light and shade designed for and realised in the original stonework, is neutralised and absorbed in the painted coat."

Now all this was written some time ago, and since then the good cause of colouring has undoubtedly gained ground, and its employment become much more usual. I should not have quoted from this pamphlet of Mr. Sharpe's, had not that gentleman returned to the onslaught this summer. In his preliminary lecture to the meeting of the Archaeological Institute at Ripon he reiterated many of those old, old objections against colour in churches, either on the walls, mouldings, or in glass. Surely if the paint is flatted so as not to be shiny and glossy, the shadows will not be lost. The colouring of the richly moulded arches to the choir of Salisbury (mainly founded on the ancient remains, I believe) seems very successful, and an agreeable contrast to the cold chalky appearance formerly there. This objection by Mr. Sharpe therefore must fall to the ground. In modern work, however, very little colouring of an elaborate description has been attempted. It has rather been essayed on flat or arched surfaces, or on plaster ceilings. In any case where stone is the surface to be decorated, it seems desirable to leave some of the natural field, partially gilding and colouring the mouldings. It is absurd for Mr. Sharpe to use such a term as "false paint" in this pamphlet, and I do not think he has altered his views on colour, judging from his late speeches at Ripon. Mr. Sharpe's genial nature and able judgment are unfortunately quite warped in this question of colour. In ceilings we naturally look out for, and crave for, colour, whether the material be wood or stone.

The correspondence just alluded to, and the subsequent pamphlet, appear to have been prompted by a lecture delivered by the Rev. E. L. Cutts, at the Royal Institute of British Architects, March 28, 1870, "On the Desirability of Restoring Churches in the Italian Style of Architecture." There was much that was suggestive in this Paper, and since it was written many of the churches of the Wrenian period have been, though not exactly "restored," yet rendered less cold and better adapted to a congregational ritual. Professor Donaldson, whom all architects respect and honour for his long and zealous services to art, in a discussion on this Paper, made some remarks illustrative and typical of a particular school of thought in the English Church, a school that utterly misrepresents and misunderstands all architectural ornamentation, except that portion of it, appropriate they think, to a Protestant communion. They do not object to any amount of carving of foliage, or even to birds and beasts and reptiles represented hopping or crawling about. They are enamoured of richly traceried windows of six or seven lights, but let there be the remotest semblance of colour on the walls and they are up in arms in a moment. After the Paper alluded to had been read, Professor Donaldson said: "We have reached an irreligious epoch as to architecture. It consists of colour. The mind of the worshipper is to be gratified, and his devotions excited by blue, green, or red colours on the walls and on the ceiling. My own feeling is that religion is not of that gaudy-painted character, but a sober solemn impression worthy of the religious place where we worship the Almighty in spirit and in truth."

It may be said that these are but the remarks of one man, delivered possibly in haste, but in sober reality such views are those of a numerous and powerful school. It is extremely difficult for any one who loves and appreciates colour to comprehend the idea that any one's devotions can be "excited" by the rainbow hues on the walls. At the termination of the interesting discussion on Mr. Cutts' lecture (where the would-be colourists decidedly had the advantage) the chairman, Mr. Charles Barry, in the course of his speech, said: "I agree with Mr. Seddon that a little colour, like a little knowledge, is a dangerous thing. Colouring, if carried out with a view to architectural effect, should be bold, uncompromising, and ample. The Sainte Chapelle at Paris has every square inch covered with colour. Yet what is the effect? not tawdriness, nothing painful. I look upon it as rich, solemn, and grand, and I for one should not feel the least diminution of devotion but rather the reverse if worshipping there, because I was surrounded by such beautiful art."

Four years and a half have passed away since this Paper was read, and I daresay many people (like myself) at that time did not care one pin about the Italian churches of London as specimens of architecture, though they respected them in their theological aspect. Since then many of the City churches have been beautified and better arranged as respects ritual, and the use of colour has become far more frequent. The interest in these buildings has therefore waxed stronger, and one continually hears of some unecclesiastical-looking structure which is being modified and improved to suit the exigencies of decent worship. To proceed with the subject:—Mr. Cutts, in one of the architectural journals, wrote in reply to Mr. Sharpe's criticisms on colour, maintaining that "traces of coeval colour are so very often found in our church restorations that we may safely say colour was commonly, if not universally, used by the Gothic architects in their churches," and adds that the men who could design architecturally so well are little likely to injure those effects by an injudicious application of

colour to them. "The use of stained glass windows was part of the ancient system of coloured decoration." I think no one will pretend to say that mediæval colouring is to be minutely followed at the present time—the intentions may have been good, but the tints are often crude and harsh, and it is rather the principle we wish to follow, the spirit, not the letter. Mr. Cutts upheld that every great school of architecture, Egyptian, Assyrian, Greek, Roman, Byzantine, Gothic, used decorative colour (and historical painting and sculpture besides) to heighten the effect of its great buildings; and that our modern buildings are crude, incomplete, and unsatisfactory to the eye, without the aids from the sister arts. So far Mr. Cutts.

In answer to this Mr. Sharpe proceeded to declare that, after all, very few churches in Europe exhibit traces of colour, and of that number still fewer contain remains of colour coeval with that of the building itself. Mr. Sharpe believes that this colouring was principally the work of the thirteenth century.

"Doctors differ," but this much is clear, in the nineteenth century, we want colour in our churches and must have it. There can be no question that it is an absurdity now-a-days, a waste of money, in fact, to line the whole interior of a church with freestone, and then to paint it over so thoroughly as to quite conceal the surface, and, as I previously mentioned, the mediævalists undoubtedly sometimes did this. It is frequently said that if a church is once commenced to be decorated in colour in one portion, the result is "patchy," and that it becomes positively necessary in self-defence to paint it over throughout the building. I do not see the force of this argument. For example, if the nave arcade is of stone, some of the members of the arch may be gilded and coloured, and then either by means of a hood moulding or otherwise, a sharp line of demarcation can be made between it and the spandrel, which latter, if it is to be wholly coated with paint, should by all means be executed in plaster. I need not say that care must be exercised in the selection of the stone for the arches, &c., in such case. A red sandstone would look crude, the tint should rather be quiet and retiring. Marble of any kind would still better assimilate with the tinted spandrels, but the material being stubborn and hard should be very slightly moulded, without any carving to the capitals. A pretty variegated marble does not require much embellishment in the way of moulding.

I have lingered sufficiently long on the subject of coloured mural decoration, and will speed on to the consideration of painted glass. Mr. Sharpe, in the pamphlet alluded to, sharply attacked modern painted glass. Much that he said was but too true, such as his complaint about the gaudiness of the colours employed. But it was scarcely fair to grumble about the rainbow tints in the drapery of figure subjects, for in a transparent medium—glass—the whole treatment becomes to a great extent conventional, certainly more so than in a painting on canvas. Yet even in the latter some license in colour is permitted, and with the exception of Mr. Holman Hunt, few painters have attempted to be realistic in religious or Scriptural representations. Perhaps it is better that it is so, that artists should trust to their imaginations rather than painfully trace out what the costume, figures, &c., might have been more than eighteen centuries since. Manifest anachronisms are to modern notions quite absurd, but in the Middle Ages the tone of feeling was different, and we find apostles, saints, and early Christian martyrs depicted in mediæval costumes, surrounded by mediæval architecture—a startling anachronism. Nevertheless, these figures have the evidence of an apparently more devotional feeling than the presumably more correct representations of our own times. I know not if Mr. Sharpe still holds the same views on glass that he still continues to retain about colour, but since his pamphlet on the subject was published, the tints in stained glass have become more subdued; there is less opaque enamel and far more white and grisaille.

Mr. Sharpe has justly remarked, "Some of incomparably the finest windows that are left to us of early times are designed precisely on the same principle, that, namely, of giving effect and apparent value to small portions of richly-coloured glass, occurring in coats of arms and similar devices by the predominance as a general ground of larger portions of amber, grey, light brown, and light green glass."

Pursuing my theory of reasonable severity in church architecture, I must deprecate any attempt at regular picture subjects extending through all the mullions across the window, a treatment doubtless seen in very good glass of the sixteenth and seventeenth century, particularly in Flemish work, and also in some modern glass. All the figures may be grouped (under their individual canopies, or on a diapering of grisaille glass composed of gracefully flowing foliage and flowers) round a central prominent object, for example, Our Saviour, either Transfigured, Crucified, Rising from the grave, Ascending to Heaven, or Seated in Majesty on High. The medallion treatment scarcely answers unless the scale of the lancets is sufficiently large for the subjects to explain themselves. Beautiful as some of the ancient jewel-like medallions are, it is almost impossible to decipher them, and though this is partly owing to the lapse of time and toning down effect caused thereby, the objects can at best have never been very distinct. It is obvious that glaring colours and too much action in the figures would interfere with the repose and severity of the building. If there is nothing very novel in the foregoing remarks, I crave my readers' pardon, but in considering the subject I have taken in hand, it was impossible to avoid the question of painted glass.

The use of cathedral rolled glass must not be forgotten in this discussion, as it is now so much employed. There is a danger that, owing to the many different tints of this material manufactured, the attempt may sometimes be made to substitute it for regular painted glass. Great labour and intricacy in the patterns is a mistake, as it is expensive, and rather militates against subject glass being inserted at a future time. Again, the tints are frequently too much varied, much the same fault that is prevalent in respect to the pavements. Some architects sneer at cathedral glass, which is a pity, for it gives a mellow light, subdues the glare of the sun, and particularly in town churches shuts out objectionable views. Provided its use be properly curbed, I can see no inconsistency in employing this material in a severe church. Stanchions and saddlebars are of course an essential, both for utility and for æsthetic considerations.

(To be continued.)

KUGLER'S HANDBOOK OF PAINTING: THE ITALIAN SCHOOLS.*—II.

OUR first notice of the new edition of the "Handbook of Painting" ended with the early Florentine school of Giotto and his immediate followers; we next come to the Sienese school. About the time when Giotto was employed on his frescoes in the Arena Chapel at Padua, Duccio Buoninsegna was painting in Siena, but he was no such innovator as Giotto, although he led the way among the Sienese in modifying, if not in abandoning, the traditional methods of the Byzantine school. In the former editions of the "Handbook" he was set down among the masters of the Romanesque style after Cimabue. Kugler's praises of Duccio, as Sir Charles Eastlake remarked, border on extravagance, and in some respects rather belong to the age when the painter's altar-piece was borne in solemn procession through Siena. According to him the unexpected modesty in the single figures and groups of Duccio's series of small subjects from the Passion "give evidence of a spirit of invention never at a loss, of a discretion always vigilant, of a penetration familiar alike with the signs and sources of emotion. The artist seems, moreover, thoroughly imbued with the spirit of his subject, so that a power of individualising even to the minutest detail is united with the purest general aim." In the new edition Duccio is rightly placed first in the Sienese school, and it is said that among his characteristics which were retained by his followers were a certain grace and sweetness, a gay, light colouring devoid of relief, and a feeling for elaborate ornament which degenerated into mere mechanical labour. Duccio's altar-piece, which was carried with so much ceremony from the *bottega*, was painted both on front and back. It has been divided, the parts being set up in the transept and apse of the cathedral. Although it cost more than 8,000 gold florins, the outlay was mainly for expensive materials, such as gold and ultramarine. Duccio is said to have been paid not more than 8*d.* a day during the two years (1308-1310) he was employed on it. There is a triptych by Duccio in the National Gallery (a Virgin and Child between St. Dominic and St. Catherine); another is in the collection of the late Prince Consort; and Christ Church, Oxford, has a third example of the master. Contemporary with him was Ambrogio Lorenzetti, who must ever be esteemed as one of the ornaments of the Sienese School, although most of his works have been destroyed. He is entitled to special mention, as he appears to be almost the first artist since the revival of painting who undertook the decoration of a secular building. In his three frescoes in the Hall of the Nine Magistrates in the Palazzo Pubblico of Siena art is in its highest place as a teacher, as they depict the difference between good and bad government, the most fitting subject that could be presented in a country oppressed and torn by discord. The frescoes are much decayed, and they are all more or less symbolical, but still they afford occasional glimpses of the everyday life of the time. Ambrogio, with his brother Pietro, are supposed by Messrs. Crowe & Cavalcaselle to be painters of the great frescoes of the Triumph of Death and the Last Judgment, which used to be attributed to Orcagna.

The Sienese school, which began with Duccio, lasted for one century, its last representative, according to some, being Domenico di Bartoli.

Among the earliest celebrities was Simone Martini, who, whatever may be the merit of his paintings, is sure of immortality, as he is mentioned in Petrarch's letters and sonnets, and is supposed to have painted a portrait of Laura. There is a small panel by him in the Liverpool Institution. As he was for some years employed in Avignon, he forms one of the links between Italian and French art. Other masters were Lippo Memmi, Taddeo and Domenico di Bartolo, Stefano di Giovanni, and Lorenzo di Pietro, who was called Vecchietta. Of the latter it is said in the new edition, "He was also an architect and an engineer, known for his designs and models of fortresses, a fact hardly compatible with any but the most mechanical habits of art. This versatility of power, or, more truly, variety of handicraft, belonged to those periods when art, however grandly represented by a few gifted men, was scarcely more than a trade with various branches, in all of which the apprentice was expected to be equally well versed. There can be no doubt that this much overpraised readiness to undertake any work that came within the range of the *bottega*, or workshop, contributed, in inferior hands, to keep art at a low level, and even in the persons of the most gifted, interfered with their productiveness."

It is not easy to say in what school Fra Angelico should be classed. He would almost seem to have been a direct follower of, and may have been taught by one of Orcagna's pupils, but no relation can be traced between them through other evidence than the character of their works. Kugler placed him with the Sienese, it would seem, because he considered that the colouring in greenish undertint of Fra Angelico's carnation betrayed the immediate influence of the Sienese school. Whatever the author of the "Handbook" says on the subject of colouring must be received with caution, as he does not seem to have much appreciation of it, and is in general so vague when he refers to the colour of a picture that his criticisms seem to have been derived from a study of engravings rather than of the original paintings. Fra Angelico, in the new edition of the "Handbook," continues to be found among the Sienese, but it is said that:—

"There is a certain affinity between his works and those of Lorenzo Monaco, who has been conjectured to have contributed to the Frate's education. But a greater identity of form and technical process is observable between Fra Angelico and Masolino da Panicale, who were very nearly contemporaries, and both issuing from the school which arose under Antonio Veneziano. The intensely subjective character of Fra Angelico's art points, however, to no exclusive master or school, though showing characteristics which bear witness to his local propinquity to the works of Orcagna. All the sweetness of that early Florentine, who, as we have said,

* "Handbook of Painting: the Italian Schools." Based on the Handbook of Kugler. Originally edited by the late Sir Charles Eastlake, P.R.A. Fourth edition. Revised and remodelled from the latest researches, by Lady Eastlake. London: John Murray.

combined the Giottoesque and Sienese feeling, was carried to the extreme point by the Dominican monk. The slender and graceful proportions of the figures in the Sienese chapel and their counterpart in those of Fra Angelico, who endowed them with his exquisite refinement, while he robbed them of their grandeur and severity. As far, therefore, as internal evidence may be accepted, the Frate's education may be said to have been derived from Masolino on the one hand and from Orcagna on the other, while his own mind furnished that which is independent of influence." The predella in the National Gallery, that one time bequeathed to the church of San Dominico at Fiesole, is a sufficiently representative work of this master.

The new movement in art which arose in the fourteenth century was not, however, confined to Tuscany and Siena. It was felt in different degrees in the schools of Bologna, Modena, Padua, Parma, and other cities of Northern Italy. At one time it was supposed that in Bologna the first to follow the tendencies of the age was Franco Bolognese, the evidence for this was a picture in the Ercolani Gallery signed by him. But the inscription is now pronounced to be false, and some other leader has to be found. The first painter of any note in the Modenesse school at this time is believed to have been one Tommaso, who was employed by the Emperor Charles IV. in the Castle of Carlsstein. Another master of this school was Sumabro, by whom there is a Virgin and Child in Frankfurt, of which Sir Charles Eastlake notes that it is uglier than a Cimabue. Of the northern schools the most important was Padua, which no less than Florence was inspired by Giotto. D'Avanzo is the best known representative of the Paduana, and Kugler considers that, with the exception of Orcagna, he was the worthiest follower of Giotto.

Kugler's third stage of development refers to the masters of the fifteenth century, whose special aim he considers to have been "the correct delineation of form, guided by the study of nature." The Tuscan school at this time had such representatives as Paolo Uccello, who is believed to have been the founder of linear perspective, Andrea del Castagno, Masolino, Masaccio, Fra Filippo Lippi, Sandro Botticelli, Filippino Lippi, Cosimo Rosselli, Benozzo Gozzoli, Ghirlandajo, Verocchio, and Luca Signorelli. About two of these painters, Fra Filippo and Andrea del Castagno, a romantic tradition was handed down which late inquiries have to some extent dispelled. According to Vasari's account, Fra Filippo formed the strongest contrast to his contemporary and fellow monk, Fra Angelico. He was said to have left the convent when he was but seventeen, to have been seized by pirates, and kept as a slave for over eighteen months, from which he was freed through drawing a portrait of his master; that afterwards he carried off a nun, Lucretia Buti, whose relations in the end were supposed to have poisoned him, and that he left a son who became known as Filippino Lippi. But modern investigation can discover no evidence of these adventures; contemporary documents refer to him as a "Frate;" his pictures are signed "Frater Philippus," under which title his death is recorded, and he is known to have been appointed chaplain of a nunnery in Florence and rector of St. Quirico at Legnaia, which could hardly have been the case if he was of scandalous habits. "We may," it is said in the new edition, "give Fra Filippo the benefit of a doubt regarding the story of Lucretia Buti and the paternity of Filippino Lippi (believed to have been an adopted son)." The circumstances also of his life seem to have been unpropitious to much self-indulgence, for he writes that it has pleased God to leave him—the poorest friar in Florence—the charge of six marvellous nieces.

According to the story which is told also by Vasari, Andrea del Castagno is more known in the history of art by a heavy disgrace attached to his name than by the small number of his works still in existence. Antonello da Messina, it was believed, obtained the secret of oil painting from John Van Eyck, and imparted it to Domenico Veneziano. "The great sensation created by the pictures of the latter excited the envy of Andrea; he instigated himself into the confidence of Domenico, while they painted together in St. Maria Nuova at Florence, and drew from him his secret. Domenico was of a light-headed, joyous disposition, was fond of music, played well on the lute, and was assisted by Andrea when he serenaded his mistress. One evening Andrea allowed him to go alone, followed him secretly in the dark, and murdered him, that he might thus be without a rival in the art. On his death-bed he is said to have confessed his crime." Although Kugler gives this story, it must be said that he does not believe in it. It is now said that the refutation of this story is simply supplied by the registers of their respective deaths, which prove that the victim outlived his murderer nearly four years; and, as a further example of Vasari's reckless inaccuracy, it may be added that, firstly, far from having painted simultaneously in the Fortinari Chapel, six years intervened between the end of Domenico's labours and the commencement of Andrea's, and, secondly, that it is very doubtful whether Domenico possessed the secret of oil painting at all.

Unfounded as stories like the above may have been, yet it is possible to see in them some evidence of what may have been thought by contemporaries of the transition in art from the style of Giotto and Angelico to that of the Renaissance of the fifteenth century, which was in practice in the Florentine schools. Heretofore painting was, as it were, the handmaid of the Church, and was occupied mainly with things which were supersensual. But in aiming at reality and seeking to represent men as they were to be seen, clothed in every-day costume, or nude when the occasion required, and environed with the buildings or the landscapes of the country, painting was entering on a new field, an event which it is easy to understand the ecclesiastical authorities of the day were not always likely to approve. One of the most important names in the history of art at this stage is that of Masaccio, yet it is plain, from the few facts known of the artist, that he could have received but little patronage, and his great frescoes in the Brancacci Chapel were left incomplete. No doubt there were many conservatives who could not appreciate such improvements as those of the Florentines, the introduction of correct form in the figures, the substitution of transcripts from nature for the con-

ventional backgrounds, the representation of actual materials in drapery, or picturesque grouping, or truth of perspective. But all these things when once discovered could not be resisted. Artist after artist in this century extended the capabilities of painting, and but for them such giants as came afterwards, Michael Angelo, Raphael, Da Vinci, Titian, and Veronese, might never have reached their full fame.

PROFESSOR BARRY'S LECTURES ON ARCHITECTURE.—I.

DELIVERED AT THE ROYAL ACADEMY, ON FEBRUARY 22.

IN opening a new series of lectures, it is a pleasure to me to meet once more the students of the Royal Academy, and particularly those devoted to the art of architecture—an art so glorious and so full of interest.

Pleasure in so doing, however, is tempered largely with anxiety, lest from personal short-comings I should fail to do justice to so great a subject, and that, as a consequence, these lectures should be barren of good results upon your artistic progress.

In these days of copious writing, and unlimited talk on art and every other subject, the question must doubtless often occur to others, besides the students of the Royal Academy, "What is the use of lectures?" Not much, certainly, if the idea is that they will make artists. It was but lately that a well-known art writer declined to give an isolated lecture, on the ground that no solid advantage could be conferred by it, and that by such lectures a mere superficial show of interest is often fostered, leading to shallow presumption and self-deceit.

Lectures to students, however, stand on a different footing. They are based on the assumption that study goes with them hand-in-hand, and that they are attended not as a mere dry form of mechanical duty, but with a *bona fide* desire of progress in that noble art to which, if he wish to succeed, the art-student must devote all his energy, powers, and industry. Where this is the case, he may find lectures of use as an aid and encouragement to studies pursued elsewhere, although taken in themselves, they can do little for him.

Lectures cannot, as I have said, make artists; for this purpose genius is required—the divine and incommunicable quality which is the gift of that Supreme Authority whence spring all good things. True genius will often disdain adventitious aid, but let no one delude himself by thinking that neglect of such assistance will bring him genius.

I dare say many excellent persons are somewhat perplexed at the utterances they read now and then on the subject of architecture—utterances distinguished by the utmost confidence, but unfortunately also by every species of discord; and it may perhaps occur to some of us that rash and hasty judgments would be less common, if the critic were aware that he could not venture to rely on the indifference or want of knowledge of his readers.

One of our first statesmen has recently told us that in England too little is thought of art, and that our countrymen would be the better for giving a freer scope to artistic influences. I think none can doubt the truth and wisdom of this opinion, an opinion which may possibly have been created, or strengthened by the official experience of its distinguished author.

To spread appreciation of art is the true way to encourage its progress, and in this will, I think, be found to reside the hope of architecture.

I sincerely trust that in the Royal Academy the art of architecture will never be thought a matter of indifference by those of you who are votaries of painting and sculpture, and *vice versa*, I hope our architectural students will gladly learn the lessons which you can teach them of the beauties of colour and form.

If, therefore, discourses on the art from this place can in any way strengthen the bonds of union among artists, and so nourish a spirit of mutual appreciation of each other's art, they may not have been given in vain.

To appreciate is to estimate, to value. This requires knowledge. No one can make an estimate while ignorant of the various circumstances which, taken together, affect the value of any article. You do not expect a teetotaller to be a connoisseur of wines, or a Hindoo to be a judge of skating.

I have on former occasions pointed out to you the complexity of our art, and the variety of the influences that have affected it at different times. It will therefore be apparent how difficult it must be fairly to appreciate its present position and prospects, however easy it may be to rush in with a *coram ligo*, to announce such ideas and startling theories.

Let us briefly examine this evening one of these theories, to which I referred in passing, in one of my former lectures.

We are sometimes told that our art is in a state of decadence, and our architects inferior to their predecessors. Some of our grandest old buildings are pointed at, and we are asked to name any worthy modern competitors. Everything that is now done is said to be based on unsound principles, and therefore worthless, and our whole system is wrong. The architect is no longer to be the ruling mind of the work, and his place is to be taken by the master-workman, one of whose most conspicuous merits is to be, that he is not to work from drawings.

In expressing my dissent from the above doctrine, I have no desire to express perfect satisfaction at our present position. Those of you who may remember portions of my introductory lectures last year, will not need to be reminded of the anxieties I then expressed on this subject.

But before we embark in revolution, we may fairly ask who are to be our leaders, and what are the prospects of success. I may have a word or two to say on these points by-and-by.

In the meantime, it may be remarked, by way of consolation, that in no time or country have prophets of evil ever been wanting, and that in our own day every institution becomes in turn the theme of dismal vaticinations; so that if our architecture is not made an exception to this rule, we may at least find some comfort in being in good company.

If we receive without hesitation all the doctrines referred to, we shall have to confess to an almost universal deterioration. Art is dead, religion a form, public virtue extinct, the England of to-day a feeble remnant of departed greatness. I must decline to accept such pessimist conclusions, and prefer to inquire whether they are not as baseless in regard to our art, as I feel them to be in their general application.

Is our art, then, in a state of decadence? I doubt it much, in the face of the great revival which we of this generation have seen. I doubt it more, when I look round on the works of the rising architects of the day. Putting out of the question those of us who have already achieved a reputation, whether of good or ill report, I can fearlessly assert, from my knowledge of the younger generation of architects, that there has never been a time in my recollection when they were more fully actuated by artistic aspirations, and thorough devotion to their noble calling.

To acknowledge the truth of this conclusion may be inconvenient to those who have too hastily committed themselves to the doctrine that "all is vanity"; but I am convinced that it will be recognised by calm and unprejudiced inquirers. We have been passing through a period of transition, a transition perhaps still incomplete; but the evidence around us on all sides is, I think, conclusive that our architects will be able to carry out satisfactorily any works that may be entrusted to them, and that when opportunities are offered, they will perform their task with at least as much ability as the members of other professions display in their several callings.

And here let me add a word as to the opportunities open to architects. This leads me directly to that question of public appreciation to which I have already referred. If the community is so apathetic or careless as to have no opinion on what is good or bad in architecture, it is not reasonable to charge upon architects the responsibility of the inevitable result.

We sometimes read in the public press advice on the construction of our houses, with vehement condemnation of architects on grounds for which they are far less responsible than the editor with his almost unlimited power of influence. Not one in a hundred of the habitations of the metropolis has had the advantages of architectural supervision, and the hundredth has probably been fettered in a variety of ways, such as local necessities, costs, and tenure of site.

The same thing may be said with reference to much that is at the present moment going on around us to the disfigurement of our thoroughfares and the vitiation of good taste. Far be it from me to deprecate criticism of such buildings, however severe it may be; but I would gladly see the responsibility for them fixed in the proper quarter.

If our public works are but too often feebly conceived, and imperfectly carried out, it should be remembered that architects are not responsible for public policy. Only the other day your late Professor of Architecture, from his chair as President of the Institute of Architects, felt it necessary to speak a few words of grave and pregnant warning on the unwisdom of a petty economy applied to a great public work now in progress. Such warnings would not be necessary if we found among our rulers, and in society the spirit of appreciation of art on which I am now insisting. Such a spirit would encourage and direct architects, and would be a source of advantage to the public.

But we are told that modern architecture fails to interest us when we compare it with the monuments of antiquity. No one has ever excelled the Parthenon, nor have our old cathedrals any modern rivals. Doubtless if this is true there is cause for serious reflection. If deficiencies exist, are they inherent, or derived from removable causes? May it not be that we shall have to take into account a great variety of circumstances before we can form a sound opinion on this point? Social and religious customs (in many cases become obsolete) must have their place in any review of the architectural past.

If it be a fact that ancient architecture is more interesting than modern work, it does not necessarily follow that it is the modern architect who is in fault. Take, for example, a great cathedral. It is probably a monument of the art of a long period, perhaps of several centuries. A great abbot began the crypt, a famous bishop completed the nave, a later chapter added the cloisters, and perhaps pulled down some of the former work to rebuild it in the fashion of the day.

Here we have a labour of love, pursued without regard to time or cost. If any member of the religious body interested had a special gift, we may be sure it was gladly offered for the service of the sanctuary. If any exceptional work of difficult elaboration was required, it would be delayed until the right man appeared to do it. There was no hurry, no insistence on cheapness before anything, no determination to cut down the plan to the barest requirements of necessity.

You will see at once how differently modern works are conducted, but it is not the architect alone who must bear the responsibility. He has to work under conditions imposed from without, and must do his best, in the circumstances in which he finds himself.

Before therefore we compare a modern building with an ancient monument, we must consider all the facts; we must not expect to find the same interest in a work of five years as in one of five hundred. We must not look for the charms of antiquity in a thing of yesterday. The archaeological and antiquarian side of architecture is so fascinating, that a taste for it lends itself only too readily to a depreciation of the every-day work going on around us, and its exaggeration is therefore to be guarded against. I fancy many of our old favourites would fail to delight us, if we could see them clean and new, with their mouldings and carvings fresh from the workman's chisel.

To weigh well these considerations is the task of appreciation in art, and without it, a fair comparison of architecture of different ages would seem to be impossible.

But we are told that all modern work is unsound in principle, and therefore worthless. Is this so? It is not very easy to define what are sound principles, except in the sense of their being the principles of the writer who uses the words. It reminds one of the saying that orthodoxy is my "doxy," and heterodoxy is other people's "doxy." Mr. Fergusson, in his "History of Architecture," appears to regard the Reformation as the turn-

ing-point of modern architecture, for he says:—"It is perhaps not too much to say, that no perfectly truthful architectural building has been erected in Europe since the Reformation." And he proceeds to visit with impartial condemnation St. Peter's and St. Paul's, as well as what he calls our more recent "Gothic fashions."

What, then, are we to consider sound principles? If we are to neglect the teaching of antiquity in the search for a new style, unlike anything that has been seen before, we shall be seeking that which no age or country has ever found, and shall doom ourselves to inevitable disappointment. If novelty is to be the great desideratum, we must at once cede the palm to the civil engineers, who have given us structures the like of which were assuredly never seen before.

The truth is that perfection, rather than novelty, should be the aim of the architect, and the search for perfection must be based on a knowledge of the past.

Take for example the Parthenon, perhaps the most famous building in the world for perfection of finish, and refinement of sculpture, curvatures and mouldings. A recent critic says, truly enough, that for three centuries there had been a gradual and moderate improvement in the architecture of Greek temples. But the Greek temple is, as you may see for yourselves by the diagrams before you, one of the simplest of architectural designs. When once the general principle of the plan was fixed, in accordance with religious prescription, there was little or no room for architectural novelty, save in the details of capitals, columns, mouldings, and sculpture.

The Greeks, therefore, the most fastidious of critics, were content that there should be only a gradual and moderate improvement in architecture, spread over several centuries, although in other things we know they were eager for novelty, at least in their later days, when, as St. Paul tells us, they were ever inquiring for "some new thing."

We must remember that things may be new without being true, and original only in unprecedented ugliness.

The Mediæval architects seem to have had little dread of what we should call copying, their piers, mouldings, and details generally, and even their plans, being often similar to each other during the several great periods of Mediæval architecture. Does this deprive their works of interest? I think not; there is always enough of local colour or peculiarity to prevent sameness, and to please the spectator. You need not, therefore, fear the reproach of "unsound principles" if you base your practice on the achievements of the past, provided you bring intelligence to your developments of them.

Whether you think that the art of Greece or the art of the Middle Ages is the purest and best, you will find that the road to success is through the study of beauty, simplicity, and a truthful freedom from affectation, and that those principles faithfully applied will lead to any novelty of treatment for which the circumstances of each case may naturally call. If you will bear this in mind, with a resolution ever to do your best, it will not, I think, be easy hereafter to argue that all modern work is worthless because constructed on unsound principles.

It is of little use, however, to dwell upon principles as the road to success, if we are wrong at starting, and there are those who tell us that this is the case.

An architect, according to these critics, is a mischievous surplussage, if not an impostor, and the first thing for us to do is to abolish architects. This will seem to many as promising a scheme as a suggestion to reconstruct the army by removing its officers. You will find the proposal, however, set forth in all its fulness in the pages of one of our principal reviews.

The argument first assumes that all modern work is bad, and then seeks to trace the cause to the existence of architects. Master-workmen, it contends, were ever the leaders in the arts, and the way to insure success now is to revert to the old system, and employ, not architects, but workmen, on our great works of architecture.

It is not quite clear how harmony is to be secured among the workmen, for I suppose each master-workman is only to understand his own trade, and is not to be "Jack-of-all-trades, and master of none;" but this would probably be thought a trifling difficulty in the way of a revolution, which we are told is the "only path" that leads to excellence in art, because in the master-workman we are to recognise the only real "hope of English architecture."

If we ask who and what is the master-workman, we are told that, in the language of Plato, "The master-workman does not work himself, but is the ruler of workmen;" that he was a simple workman in his origin, and probably by family descent; and that his "duties were to make the plan, arrange the elevations, and be, in fact, the foreman of the work."

It is argued from this definition of his duties, that he must always have been on the works, and it is affirmed, on authority which is far from clear, that Ictinus thus built the Parthenon. We are further asked to imagine a dozen architects employed in this way on the foundations of the New Law Courts (and I suppose any number of dozens more on the superstructure), in order that we may recognise the difference between the good old way and the degenerate customs of modern times.

That architects should be draughtsmen is denied. Calliades and Ictinus, we are told, were architects of the Parthenon; but they worked under the orders of Phidias, who was appointed by Pericles director and overseer over all. It is contended that Phidias was only "a carver," although the "noblest of the workmen;" but how this is to be proved it is difficult to say, as it is also to recognise in the above description of his duties any great variation from those of an architect-in-chief at the present day.

We know how delicate are the curves and other refinements of the best Greek art, and we are asked to believe that these, as well as the beautiful details of Gothic churches, are "the direct expression of the working man of various grades, but always present at the building."

It will be evident to you that if this theory of the master-workman be good for anything, it must be made to apply to later works than the Greek temples, and we accordingly find it asserted that whether in Romanesque

Lombard, Byzantine, or Mediæval works, whatever is good is due to the master-workman, whose thoughts were manifested as they arose, and whose "changes of detail or of plan were prompt, open, and decided;" by which we must conclude that it was a merit in the master-workman that he had no clear idea at the outset of what the work would be on its completion, and that he did not sit down and count the cost before he began to build.

It is curious to note that the propounder of this theory is so much in love with it, that he relates with satisfaction that *Ædnothus*, one of his model master-workmen, built a church tower in the Isle of Ramsay, in Huntingdonshire, which, before it was finished, began to crack. It might at first sight be thought that this was not a very pleasant state of things; but it presents no difficulty to our author, who evidently considers it in some way a support to his argument.

He tells us "the labourers approached the tower by the roof; and going stoutly to work, razed it to the very ground, dug out the treacherous earth, made the foundation sure, and again 'rejoiced to see the daily progress of the work.'" Delighted with this result, he exclaims, "What a contrast all this to our present condition and practice!"

If we ask what there was to cause this joyful exclamation, we are told that the nobleman who paid for the work was noted for "the sanctity of his deportment," that the Bishop "could make a plan," and that the builders were "twelve brethren in one village, who had cast behind their backs the lusts of the flesh, and were warmed with divine love."

Nevertheless, I should not advise any young architects of the present day to rely upon such reasons to justify him in building a tower of unsound construction, or to think that when it falls, his employers will delight in the daily progress of the work of rebuilding.

In the story quoted we are told this was the case. Indeed, the narrator seems so pleased with this pulling down, and building up again, that we almost expect to hear of a further catastrophe; and consequent increased delight with the progress of the third tower. He concludes his account by declaring that his retrospective view confirms the holy Oswald's prescient declaration, "Verily, this is another Eden, preordained for men, destined for the highest heaven."

I have given you this story as much as possible in the words of the writer, as I do not wish to weaken them, but time would fail me to follow him into all his illustrations of his supposed universal theory.

If we ask how it came to pass that trouble entered into this architectural Eden, the answer given to us is that in Italy, five centuries ago, a draughtsman was employed to make designs for a "foolish work," and then began the "decadence of architecture." Who was this draughtsman? No other than Giotto. What was this "foolish work?" You will perhaps be surprised to hear it was the Campanile at Florence, a building which has been the admiration of ages for its architectural beauty. Many of you have probably seen this tower; all of you, I hope, will do so; and though there must of course be differences of opinion as to its merit, I venture to think that you will require a very high scale of excellence in the works approved by a critic, before you consent to submit yourselves to his judgment in condemnation of this architectural glory of fair Florence.

It is true that its censor is gracious enough to admit that it is saved from absolute debasement by the carving of Andrea Pisano, Lucca della Robbia, and Donatello; but this does not prevent the whole work from being "a folly," "without artistic growth," "a thorough modern work," "without life, or art relationship, or any influence in architectural development and history." Here, again, I use our author's words, that there may be no mistake as to his meaning.

Giotto's unpardonable sin was then, it seems, that he agreed to be the draughtsman, or, as we should say, the architect of a tower which the Florentines had determined should "exceed in magnificence, height, and excellence of workmanship, whatever of the kind had been achieved by Greeks and Romans." "Like Phidias, as the greatest of the workmen, he directed all, and was overseer of all; and yet the building had great artists of the works." A great error, truly, in the eyes of the critic, who condemns him so mercilessly for breaking into the paradise before pictured of the master workmen, men destined for the highest heaven!

After this severe condemnation, however, we are a little surprised to read in the next paragraph, "But Giotto was a real 'master-workman,' and himself assisted in the sculptured decoration of the tower." Can it be, therefore, that his crowning error was that the tower stood, and if he had let it down as *Ædnothus* did his work, and had called in the Florentines to rejoice with him on the daily progress of putting it up again, he might have been more leniently dealt with? As, however, he was undoubtedly guilty of making drawings, I fear he could never have ranked with the "twelve brethren warmed with divine love," but he might surely have claimed to be praised with the bishop for his ability to "make a plan."

Michael Angelo, we all know, was architect, painter, and sculptor, the latter art being his favourite. He consequently fares little better with our critic than Giotto. His supremely noble work in the Sistine Chapel is, we are told, spoiled by having been designed in a technically unskilful way, so that his pictures are surrounded by a barbarous medley of Renaissance forms, a half-pretence of solid architecture, absurd in principle, and clumsy in effect.

Raphael, we find, was ignorant "of the sense and scope of decorative art," and from St. Peter's to the latest building of "New Rome," Italian architecture is but "a dreary evidence of luxury, a record of expenditure and folly."

But is Italian architecture alone to be denounced? By no means. It appears that some sixty years ago an ancient vellum drawing of Cologne Cathedral was discovered. I should certainly not propose to you Cologne Cathedral as a perfect illustration of Mediæval art, but our author does not think it necessary to say a word of its merits or demerits. He at once denounces it wholesale, in consequence, apparently, of the existence of this parchment, which, he says, accounts at once for the faults of the building.

To some of us this discovery of an ancient drawing may not seem to agree exactly with his general theory of the master-workmen who worked with "thoughts manifested as they arose," free from all guidance from

draughtsmen. It at least raises a strong presumption that Cologne was not an exceptional case, and that "ancient vellum drawings" may have been prepared for other similar architectural monuments. However this may be, our author decides that Cologne Cathedral is a "gigantic folly, and a total waste unless it prove a warning."

Having thus cleared the ground, we are referred to some specimens of master-workmen's labours in modern times, and are called to declare that as architects have so demonstrably failed in all they have done, the workman is to take their place, and inaugurate a new series of triumphs of all that is true and beautiful in architecture.

I hope I have not wearied you by the above extracts. It has seemed to me desirable to place them before you, as far as possible, in the words of the critic, for it is clear that if his conclusions are to be accepted, they must strike at the root of all our work here, and the Royal Academy may give up its care for the education of architects. Many of you who are familiar with the actual practice of architects nowadays have probably already formed an opinion on our author's proposals for the future, on which I now wish to offer a few remarks.

(To be continued.)

THE ANCIENT MONUMENTS BILL

AS might be expected, Sir John Lubbock has, with admirable perseverance, again introduced his Bill for the Preservation of Ancient Monuments, and it is to be hoped that he may be more successful in carrying it through the House of Commons than in the past sessions. This is his fourth attempt to rescue the earliest antiquities remaining from destruction. The Bill is in character similar to that of last session, and contains twenty-one clauses. It proposes to institute a National Monuments Commission, consisting as before of the Inclosure Commissioners, with the Master of the Rolls, the Presidents of the Societies of Antiquaries of London and Scotland and of the Royal Irish Academy, the Keeper of the British Antiquities at the British Museum, besides seven "nominated commissioners," who, in the first instance, are to be the Dukes of Devonshire and Argyll, Lord Talbot de Malahide, Sir William R. Wilde, and Messrs. Lane Fox, John Evans, and John Stuart.

The provisions of the Act are to apply to the several monuments which are included in the schedules. On former occasions we enumerated these, and we need only mention that the lists remain unaltered, and still comprise such remains as Stonehenge, the works at Abury, Caesar's Camp at Wimbledon, Wayland Smith's Forge, Kites Coty House, in England; the Bass of Inverary, the vitrified forts on the Hill of Roath, the cross slab at St. Vigean's, in Scotland; the earthen works on the Hill of Tara, at Ballylessan, Dunkeltair, Tlaglita and Teltown, the tumuli at New Grange and Slieve-na-calliagh, in Ireland. There are twenty-nine monuments in the English, twenty-one in the Scotch, and twenty-three in the Irish, in all no more than seventy-three. But the Bill continues to specify that the Act may be applied, under certain conditions, to any British, Celtic, Roman or Saxon remains, or any monument which is, in the opinion of the Commissioners, of the like kind as any of the monuments specified in the first schedule, and which is not situate in any park, garden, or pleasure-ground. It is, we imagine, to the supposed comprehensiveness of this latter provision that the failure of the former Bills was partly owing, but an Act of this class could hardly be of much efficiency which did not give power to deal with some contingencies.

Supposing the Bill to become law, the machinery to carry out its provisions is of the simplest. The Commissioners give notice to those who occupy the site of a monument, to the owners of the site, and to the clerks of the peace for the counties, stating that any person who destroys, removes, defaces, alters, covers up, builds on, undermines, or in any way endangers the safety of the monuments, will be liable to the penalties of the Act. But should either the owner or occupier require to deal with a monument, or, in a word, to destroy it, all that has to be done is to send a requisition to the Commissioners requiring them either to consent to whatever is proposed to be done, or, on the other hand, to purchase all the proprietary rights in the monument, or at least to acquire a power of restraint in respect to it. In case the Commissioners do not signify within three months that they intend to purchase the interests of the owners and occupiers, they shall be deemed to have given their consent to the monument being dealt with in the way proposed. The Commissioners may, by agreement with the persons interested, acquire a freehold or other estate in a monument, or in its site, or such rights of way as may be necessary for the access of the public; but it is not proposed to confer upon them compulsory powers, such as are granted to various local government boards, and even to private companies or individuals. The Bill cannot, therefore, without straining of its clauses, be interpreted as wantonly interfering with the rights of property. The compensation to be paid by the Commission is to be settled under the provisions of the Defence Act of 1860, and the penalty for injury to a monument under 24 and 25 Vic. cap. 97, with respect to malicious injuries.

With the experience of Sir John Lubbock's past attempts before us, it would be perhaps over sanguine to imagine that the Bill can meet with a fate different from its predecessors. As before, it may be said of the clauses that they legalise burglary by daylight, and that it is irregular for private members to introduce Bills which propose to control the public purse. But before any summary action may be taken by the House of Commons it ought to be remembered that every year brings fresh evidence of the necessity of legislation for monuments of these types. Architectural antiquities are generally in the hands of those who have more or less appreciation of their value, and are therefore safe; but earthworks and rude stoneworks, which to the majority have little about them that is interesting, unless there may be some tradition or legendary story attached to them, are in danger as long as they are likely to interfere with the arrangement of the land which surrounds them, or while the materials of which they are more or less composed may be converted to profitable uses.

EARLY CHRISTIAN ART.

A LECTURE BY MR. GAMBIER PARRY.

(Concluded from page 106.)

YOU have noticed with what tenderness and humility the earliest Christians introduced the figure of our Lord. Such being their feeling, you might have deemed it most natural for artists, who loved to clothe everything in sign and emblem, to have had recourse to the simple and expressive symbol of the Cross. Indeed, it would be still more natural to have expected this when you remember how universal the use of that symbol was in the daily life of the first Christians. But for nearly the first 300 years the figure of the cross was not openly used in Art. That symbol appears to have been deemed so sacred by them that it was itself even symbolised by other forms. It was expressed in the Greek monogram; it was represented by the letter T; it was shown in the prominence given to the cross piece of the favourite emblem of the anchor; it was engraved on rings, or formed on ornaments, which could be worn concealed. But upon the proclamation of Christianity by Constantine the punishment and the offence of the Cross ceased, and the symbol of it became as universal in public as it had been in secret. It was soon developed into richly-ornamental forms, and became the central feature in the great mosaics with which sacred buildings were then adorned. As yet no crucifix had been executed in art. The bare cross, however, was now used everywhere. It became the emblem of baptism in the baptisteries, and was made expressive of the Crucifixion over the altars of Basilicas. In the Catacombs there is a very fine example of this in the Cemetery of St. Ponziano, where a large jewelled cross is painted, with two lighted candlesticks borne by the arms of the Cross, and the A and O, the emblems of Christ's divinity, suspended below them. Another magnificently ornamented cross is in the baptistery of the Lateran, where it forms the principal feature of a complex subject. The Dove, as the emblem of the Holy Spirit, hovers above it, and on each side below are ranged the emblematic figures of deer and sheep washed in the waters which flow from the foot of the Cross. The phoenix is represented above them as the symbol of regenerated life, and St. Michael stands in the midst, guarding the entrance to the city of the heavenly Jerusalem.

In other cases the cross stands for the person of Christ. The best illustration of this is perhaps in the great mosaic of the Transfiguration in the Basilica of St. Apollinare in Classe at Ravenna. Here a hand, issuing from the sky above, represents the presence of God. Half figures of Elias and Moses are on the right and left, and between them, in the place of Christ transfigured, is a great cross, very richly ornamented with jewels. The three disciples who witnessed the Transfiguration are represented by three sheep on the ground below the cross. The date of this remarkable work is A.D. 567. In other instances the cross is represented as the symbol of redemption and victory over death, carried in Christ's hand. We find it so in another mosaic in Ravenna, where our Lord is represented by the figure of the Good Shepherd caressing his sheep with one hand and holding the cross in the other. Thus, and in numerous other paintings and mosaics, we find the symbol but not the reality of the Crucifixion. The nearest approach to this is in a mosaic of the sixth century, where the symbolic figure of the Lamb is placed where the crucified figure would be, on the centre of the cross, with wounds in its side and feet. The blood is received in a chalice, and then breaks out again below into five streams, emblematic of the five wounds of Christ. It is impossible not to be struck in these examples by the reverence and fear with which the artists of those days deferred the realisation of that awful subject. We have reached the beginning of the sixth century, and have not yet found it.

The earliest drawing of the Crucifixion preserved to our times was made not by Christian but by Pagan hands. It is a caricature on the wall of a chamber in the Palace of the Cæsars at Rome, and represents a doll, with an ass's head, in the attitude of crucifixion. Beside it is a figure in the common Pagan attitude of prayer, and the rude inscription scribbled between them describes the subject as that of Alexamenos worshipping his God. The date assigned to this curiosity is the latter part of the third century. It is not till the sixth century that we find the Crucifixion; but even then it is more symbolic than real. We do not find the crucified figure as that of Jesus of Nazareth, the betrayed, the broken-hearted, the reputed and suffering criminal, but it is the dignified figure of a priestly King, standing against a cross, with arms outstretched, draped with a long royal robe, with the golden aureole about the head, and crowned—no nails, no wounds are shown, no sign of humiliation, no sense of pain—but the grand figure of the God-Man glorified in the act of the redemption of mankind.

For centuries after the time of Constantine the pious custom remained of visiting and adorning the tombs of the martyrs. Lamps were kept constantly burning before them; and among the most valued possessions carried home by Christian pilgrims was a vial containing some drops of their consecrated oil. On a golden vial presented by St. Gregory of Tours to the Lombard Queen Theodolinda, at the end of the sixth century, is engraved a very remarkable design of the Crucifixion. It illustrates the entirely symbolical character of the art in his time, its devotional reserve and cautious reverence. Here the whole story is simply and sufficiently told. In the centre is a small ornamental cross, with two figures kneeling beside it. Right and left are the figures of St. John and of the Blessed Virgin. Beneath them the tomb surmounted by a small cross, with the angel guarding it on one side and the Marys approaching on the other with spices in their hands. The two thieves are represented above in the attitude of crucifixion; but the presence of Christ is exhibited above, not on the cross, by his bust alone, as if in glory, with the head surrounded by a crossed nimbus. The sun and moon, right and left of Him, complete the composition. There are other specimens of this reverential treatment; as, for instance, the great cross of the Vatican, where the cross is bare, and Christ's presence only shown by a bust of Him on either side, glorified by a crossed nimbus, and holding the roll of a book in one hand and blessing with the other. The earliest instance known of the adoption of the Latin inscription I.N.R.I. is on the cross of a subject of the Crucifixion executed

in mosaic at the beginning of the eighth century. It was in the original Basilica of St. Peter's at Rome. In this the kingly figure of Christ on the cross was robed in a graceful tunic, and treated rather as victorious than suffering. The well-known cross of Charlemagne of the ninth century, and an important painting of the Crucifixion in the Catacombs of the latter part of that century, serve to show to how late a date this reverential treatment was maintained. The Crucifixion not long ago discovered in excavating a former church beneath the present Basilica of St. Clemente, at Rome, probably belongs to this epoch. Its discoverers rather urge its extreme antiquity, but this age is really the earliest that can be assigned to it. It bears all its evidence in itself from the full development of the crossed nimbus, the very short skirt about the loins, and the general style and treatment of the painting throughout. The great change that time introduced in this subject indicates the changed condition of the Christian world. Those were the very central days of distress, darkness, and suffering, when old social relations were broken up and nations were being re-cast. In all the confusion and uncertainty which then prevailed the only quiet was to be found in the cenobite life; the only place of safety in the fortified convent. There the life was dreary, and in the morbid sentiment of those religious prisoners the idea was fostered that personal suffering, self-inflicted, was a saintly virtue. It was under these influences of hardship and distress, it appears, that the mind of Christendom began to concentrate itself with increased intensity on the humiliation, the sufferings, and the fortitude of Christ, as though to draw from them a consolation of divine sympathy, and to fortify themselves by their example. It was then that the figure of the Crucifixion lost its symbolism and became a reality. Previously the crucified figure had been represented alive, but now dead. If the nails pierced the draped and crowned figure of the King of Men upon the cross, they did so without sign of pain; but now emaciated figures drooped with grief and ran with blood.

Here I would stop, for here the traditions and poetry of Early Christian Art were lost. But I must pause one moment to arrest all hasty condemnation of those works of our fellow-men, who did but reflect their own deep troubles in their art. I must beg you, in this case as well as in all others, to interpret art as art interprets history, and to observe, in this change from the glory of the days of Christian hope to the gloom of their discouragement, only the sign and evidence of a phase of life through which Christendom was passing, exhibiting itself and reflecting in its arts the deep shadows of distress and trouble which had settled on the world around it. Vico had found her day of reckoning, and the Roman Empire sank under the weight of wickedness, which abuse of all its talents, and corruption of all its power, public, private, social, and political, had brought upon it. The ruin, the chaos, which supervened was the time of "the distress of nations with perplexity." There was but little peace anywhere; no fidelity, no security. Morality had no foundation, while religion was being cast in new moulds. That age of gloom and depression is registered on the dial-plate of art with dark and dreary lines. Subjects which had been illustrated with the smiles of sketchy brightness now bore a changed expression. But that age of gloom was also one of the renovation of the world's life, and through it and all its chaos of men and things we can trace the current of a silver stream, diverted, disturbed, but unbroken in its course, reflecting the light of heaven from above, bringing refreshment on its waves, a stream of living water, which had flowed from a fountain-head of truth and power inexhaustible, and wandered on its way meandering through the disturbed scenery of struggling nations, to bring them peace at last, to soothe and heal the hearts of men, and to regenerate the world. That stream was the tradition of the Christian Faith. Days were soon to dawn when the clouds would clear away; and as plants and trees, whose roots have been braced up and ripened by the cold of winter, break forth with all the greater beauty in the warmth of spring, so, at the close of the dark ages, did the arts of Christendom grow up and flourish in all the fulness of their pure poetry. North of the Alps they broke forth in the grand productions of Gothic genius in architecture and in every art that surrounded it; and south of the Alps in the works of that race of artistic giants from Cimabue, Giotto, and the Pisani, to Beato Angelico and Leonardo da Vinci, and that host of others, whose names and works adorn that age of enthusiasm.

The sculpture of the Early Christians is best known by the sarcophagi which once adorned the monuments of the Catacombs; but, unhappily, most of them have been removed to churches and museums, so that their dates cannot be easily ascertained. It was long before this mode of imagery was adopted. The sculpture of the first three centuries was but little more than the carving of the usual emblems on the tombs and walls of the Catacombs. At first all real sculpture was disallowed, but a modified adoption of it soon became inevitable, and after a while a compromise was obtained in the use of bas-relief. In this manner the sarcophagi were ornamented, and the usual cycle of scriptural subjects, long since completed in painting, were adopted. But this was not begun till the enfranchisement of Christianity in the fourth century. A great change was now coming over all the arts. The old school of Roman art died out. Byzantine artists designed the mosaics of the Basilicas and the paintings of the Catacombs. All classic ideal was lost; a cold severe school of design took its place. The long emotionless figures, faces without expression, draperies without grace, groups without composition, witnessed its presence everywhere. But cold and lifeless as that school was, it had its great as well as its bad artists. Its masterpieces are in the well-known mosaics; and beside its works it served to maintain the traditions of the subjects, the motives, and the technicality, of the arts of better days gone by. The severity of the Iconoclast persecution in the eighth century dispersed the schools of Greek artists all over Christendom. In France they established the school of enamellers at Limoges. In Italy and in Constantinople they left their memories in their unsurpassed mosaics. And last, and indeed not least, it was to Greek artists at the beginning of the eleventh century—the only ones that remained after the general wreck of the dark ages—that the first important step in the revival of the fine arts was due, when the famous Abbot Didier invited them from Constantinople to complete and adorn the great Convent of Monte Cassino, at once a fortress, a palace,

and a college. That vast establishment in the south of Italy became the centre and refuge, in those days of disturbance, for literature, art, science, and religion. There glass painting was first introduced into Europe, and a school of the arts of metal casting, painting, mosaic, and sculpture was established, which relaid the foundation of Sacred art. It was then that the hour was struck when Early Christian art had completed its work in giving birth to the arts of the Middle Ages.

There is yet one other branch of our subject which must not be overlooked. The old styles of Classic architecture had long ago yielded to the invention of the arch. Their principles of construction had been altogether horizontal, and their buildings low. The adoption of the arch had now revolutionised them; and a compound was the result which adorned an architecture of arcades and lofty construction with the detail of the horizontal Classic. These novel combinations were consummated by extending the principle of the arch to roofs, and thus covering vast spaces with domes. Those of the Pantheon and Minerva Medica were the models from which the architecture of new Constantinople took its impulse. But soon another and a greater effect was to be produced elsewhere. In the sixth century the rough Lombards, settled on the plains of Northern Italy, soon brought their vigorous spirit to bear on the arts of the degenerate people about them. The Romanesque architecture of the period was but the debased art of an age of transition. It was presented to them in its weakest form. The Lombards soon took it into their own hands; and as builders rather than architects, as settlers and warriors rather than artists, they cared for little else than construction; and when that was accomplished, to suit their needs and to satisfy their growing science, they found that they had developed an architecture altogether their own—the reflex of their own massive, vigorous, and lofty genius. Thus the Lombards became the great builders of Europe. The companies of chartered masons from Lombardy, from the adopted centre of their craft at Como, went forth, and spread their art, and with it their energy and spirit, all over Europe. Their style was bound by no trammels of tradition. It was free, fresh, and elastic, and from it sprang, with natural ease and growth, those styles of consummate art and beauty which formed the so-called Gothic architecture of mediæval Christendom.

Thus I complete the sketch which I promised to you of the rise and development of Christian art. It needs more care and deserves more study than it usually receives. To many—perhaps to most people—fine art is but a thing of forms and colours, the mere luxury of idleness. They care not to penetrate beneath and beyond them to the motive, the sustained idea, and the inner life, which that thought-language of lines and shades and coloured forms is designed to convey. They are unfelt and so ignored.

The works of Early Christian art can be neither appreciated nor understood without realising the conditions of public and private life under which it was produced. Those who really care to occupy themselves with it soon train their eyes to pass over the mere handwriting of its alphabet, the weakness of the execution, the rudeness of the work, and find a world of life and thought beneath, which they alone who have the heart to read can read. There is no story in the romance of the world's life equal in the intensity of its interest to that of Christianity. It is so, even for those who care not for its truth; far more so is it for those who do. That art with which the first Christian solaced himself, embodying his thought in sign and symbol, and by which, as time elapsed, he made his first timid ventures to relieve emotions too full to be contained—that art has been the treasury into which Christians of all generations, from his time to our own, have cast the precious records of their life and faith. Equal in value as history and poetry, it affords to the antiquarian an inexhaustible resource of interest and information. To the historian its simple truth and undesignated testimony throws light where all is often dark and silent. To the Christian artist its course is that of a sacred stream, by which he loves to linger, and to watch in the alternations of ruffled wave and quiet pool the reflection of those deep traditional sympathies which are his soul's food. It is for all who care to know and use it a possession to which all are free, by its records to instruct, by its religion to purify, by its poetry to illustrate and adorn the mystery of human life—by the power of its universal language to give expression to that life, and to afford the firmest links ever forged by the hand of man, to bind together in one unbroken line its past, its present, and its hereafter.

CORPORATE IMPROVEMENTS AND ARTISANS' DWELLINGS.

THE official statements respecting the erection of dwellings for the labouring classes, and other sanitary improvements which have been furnished by the corporations of Edinburgh, Glasgow, and Liverpool at the request of the Home Secretary, and presented to both Houses of Parliament, will no doubt help the legislature to judge of the probable effect of the operation of some of the clauses of the "Artisans' Dwellings Bill" if it should become law. It is true that in each of the cases described the extent of the work was comparatively circumscribed, and was carried out under local acts and without much reference to the general well-being of the State; but, after all, there can be little essential difference in the more important features of measures of this kind. Whether improved dwellings are erected under a special Act or under a general Act, such as is now before Parliament, the funds will have to be provided by local taxation, the difficulties to be overcome will be similar, and the inconvenience to the people affected will be alike. The statements from the three towns to which we are about to refer are of importance, as giving the results, financial and otherwise, of actual experience in the demolition of unhealthy houses, and on one point this is especially so. It is sometimes thought that if the Home Secretary's Bill is passed, much misery is often likely to follow from the eviction of so large a number of people as now inhabit those houses which will have to be removed. But from what has occurred in Edinburgh and Glasgow, it would appear that there need be not much apprehension on this account, for although in both places many have had

to seek new dwellings, and have had some temporary trouble, benefit has followed, and the general health was not diminished at the time.

In 1867 the Edinburgh Council obtained an Act enabling them, in order to construct new streets, and as a means towards general improvement, compulsorily to destroy many of the narrow lanes and closes of the city. As many of the labouring classes were in consequence to be ejected, authority was given in the Act to expend 10,000*l.* in erecting houses for them. The cost of the operations was to be 350,000*l.*, which has been expended already, and this was to be repaid by a rate of 4*d.* in the pound, extending over twenty years. The position of the lanes which were condemned was such that, when the tenements were removed and new streets formed, advantageous sites for buildings were obtained, which, when set up to auction, yielded from 8*s.* 6*d.* to 1*l.* 19*s.* per foot of frontage per annum, and these rents are capitalised and sold. No doubt this was an important public improvement, but it can scarcely be taken as an example to show what can be done in any city. It is not in every place that by removing unhealthy dwellings streets can be constructed like some of those in Edinburgh (which are 80 feet wide) at a cost which will eventually pay. Besides, the benefit of the labouring classes was far from being the principal aim of the council, but rather the securing of more direct thoroughfares through parts of the city.

The council expended about 7,000*l.* in erecting houses for those families who were dispossessed, but it is said "the effort failed in its expressed object." Still the Medical Officer of Health reports, and this deserves attention, "that the poor have been put to no inconvenience by the pulling down of old houses, and that the removal has been carried out with little damage to the public health," although this could hardly be anticipated by those having but a general knowledge of the capabilities of the city for this purpose. Dr. William Chambers, the well-known publisher, who has been Lord Provost of Edinburgh, and has had much to do with the carrying out of the Improvement Act, says that in reselling the building ground the trustees make very stringent conditions as to sanitary arrangements of buildings. It is hoped that none of the new buildings referred to by the Medical Officer of Health are on these sites; if so the precautions are of little avail, for he says, "More attention has been paid to the front elevation than to the internal arrangements, and it has happened, in many instances, that houses erected for the better class of artisans have been subdivided to meet the wants of a still poorer population, and by means of this subdivision the look of the house has been altered for the worse, and dirt, the result of slovenliness and imperfect education, has been allowed to reign supreme."

In Glasgow, since 1870, the Improvement Trust have demolished the houses of 15,425 people, property to the value of 1,400,000*l.* has been purchased in the worst parts of the city, and about forty new streets are in course of construction. The surplus lands are sold with so much profit, that it is expected that the ratepayers will not have to bear more than one-fourth the original cost, or less than the value of the ground thrown into streets, including the expense of formation.

The poorer classes, it is said, have most benefited by the alterations, "so long as the hovels remained they clung to them, although nothing could make homes of buildings the walls of which have been permeated by disease." But the corporation do not build houses for them, as a sufficient number are erected by private enterprise to meet all wants; besides, it is said, "we are opposed to competing with private enterprise, as such a course checks building. Neither do we consider it prudent to become philanthropic landlords, to let houses below the actual rents to any class, as this has a decided tendency to pauperise and destroy that feeling of independence in our working class population to which they are already too prone." What is a remarkable feature in connection with the Glasgow improvements, is that the labouring classes, somehow, were able to pay a higher rent in the quarters to which they migrated. This amounted to 20 per cent. on the rental of a house of one apartment, to 20 per cent. on one of two apartments, to 58 per cent. to one of three, and to 28 per cent. on a house of four apartments.

The amount of improvement of a similar kind effected in Liverpool appears small if compared with Edinburgh and Glasgow. Schemes for which Parliamentary sanction has been obtained have not been carried out, mainly on account of the enormous claims which would have to be settled, and the cumbersome inquiry which has to be gone through in each case. The corporation have, however, expended 21,306*l.* in the purchase of sites for blocks of workmen's dwellings, and in order to give private enterprise an opportunity of erecting some of the houses, they offered part of the land for sale in 1866, but since, there has been no offer and no inquiry. The council determined in July 1867 to invite competitors to submit plans and designs for workmen's dwellings, and offered a premium of 200*l.* for the best. There were seventy-three competitors, and all the designs, it is said, were of the highest character. Most of them, however, had been arranged without consideration of local building laws. As a consequence of this, only twelve of the designs could be admitted to the competition, and of these the successful one was that of Mr. Reeves of Liverpool. The corporation gave a second prize to and afterwards bought the plan submitted by Messrs. Heeketh and Redman. This plan, when slightly altered, was adopted by the corporation. It will cost, according to the accepted contract, 12,231*l.*, and consists of 146 dwellings.

Mr. Foley's statue of the late Prince Consort was cast on Saturday last, at the foundry of Messrs. Prince & Co., Ewer Street, Southwark. The figure is seated, and is 15 feet in height. The statue would have been completed some months since but for an accident. The workmen were removing a portion of the mould, weighing some 20 tons, through the foundry when a chain broke, and the vast mass fell down to the ground, thus destroying the labour of months. The statue now merely requires chasing before being erected in Hyde Park.

ILLUSTRATIONS.

SCULPTURED PANELS BY DONATELLO.

THE central group in the accompanying illustration is from the circular gallery in front of the Duomo at Prato, from whence the relic known as the *sacra cintola*, or legendary girdle of the B. VIRGIN, used to be shown on certain festivals. The grace of DONATELLO's groups of children has been generally admired, although the design of the gallery as a whole is not effective.

The pendants are from the altar rails of the Church of St. Antony at Padua.

THE TOMB OF KING HENRY VII.

THE bronze screen surrounding the altar-tomb of King HENRY VII. at Westminster (of which an elevation has been already published in the *Architect*) is one of the most marvellous specimens of metal work existing; although it has suffered much at the hands of the Puritans, enough remains to give us some idea of the extent and magnificence of the work.

It was executed by the express command of HENRY, who refers to it in his will as a "grate in manner of a closure of copier and gilt, after the fashion that we have begonne." It is evident that these instructions were carried out to the letter, for the whole of the work is conceived and wrought in true Tudor spirit, from the general outlines down to the minutest moulding. The form, as will be seen by the drawings we publish this week, is rectangular on plan, and measures 19 feet 9 inches from west to east, and 11 feet 10 inches from north to south; the total height to the summit of the corona being 11 feet 7½ inches.

The grille stands on a granite base (this terminates at the top of the quatrefoil diaper-work), and is framed upon eight stout iron rods, four at the angles, and four forming the jambs of the gate; these rods support a strong bronze casting running continuously round the top, and forming together, with small cross pieces of iron at every bay, the main support of the cornice and parapet; the traceried panels and divisional members are carried by intermediate vertical pieces framed into the top horizontal casting. The upper part is divided from the lower by a small continuous panel containing an inscription in very fine ribbon letter. The lines may be of interest to some of our readers, as the original is not complete:—

Septimus Henricus Tumulo requiescit in isto
Qui regum splendor Lumen et orbis erat
Rex vigil et sapiens comis virtutis amator
Egregius forma, strenuus atque potens
Qui peperit pacem Regno qui Bella peregit
Plurima qui Victor semper ab hoste redit
Qui natus binis conjunxit Regibus ambas
Regibus et cunctis federe junctus erat
Qui Sacrum hoc struxit Templum statuitque Sepulchrum
Pro se, Proque sua conjugo, prole, Domo
Lustra decem atque Annos tres plus compleverat, Annis
Nam tribus octenis Regia Septua tulit
Quindecies domini centenus fluxerat Annus,
Currebat nonus cum venit atra Dies,
Septima ter mensis Lux nunc fulgebat Aprilis
Cum clausit summum tanta Corona diem
Nulla dedere prius tantum tibi Sæcula regem
Anglia, vix similem posteriora dabunt.

At the angles of the grille and on either side the entrance are two rows of canopied niches which originally contained statuettes of the saints. In 1570 one RAYMOND is said to have stolen several things from this monument, and WIDMORE believes these to have been some of the gilded images, of which, out of thirty-two, only six remain, viz., ST. EDWARD THE CONFESSOR, ST. BARTHOLOMEW carrying his skin, ST. JOHN THE EVANGELIST (these are the three represented in the drawing), ST. GEORGE, ST. BASIL, and ST. JAMES. It is generally considered that these figures are inferior to those forming part of the altar tomb within, by TORRIGIANO (or PETER TORRYANY as he is sometimes called), but considering the age in which they were done and the reputed barbarity of the times, they display a great deal of vigour in their design and workmanship. The whole of the work bears evidence of having been chiselled up after casting, which accounts for the delicacy and richness of the several parts; the enormous amount of labour that this must have entailed in such a work is almost inconceivable, and grand indeed must have been the *coup d'œil* on its leaving the hands of the artists. Although the general uniformity of the composition suggests the surveillance of the master mind, there are repeated instances of the activity of individual minds, notably in the treatment of the canopies over the thirty-two niches, hardly two of which are of similar design.

To the east of the sarcophagus, within the grille, there existed formerly a magnificent altar; the clauses in the KING's will referring to this part of the monument are so quaint and precise that we propose quoting them:—

"That there bee maid within the grate at oure feet after a convenient distance from our Tombe an *Aultier* in the honour of our Saviour Jhu Crist streight adioynnyng to the said grate, at which *Aultier* we wol certaine

preists daily saie masses for the weale of our soule and remission of our synnes," and in a subsequent page he gave certain directions for garnishing the same; he also directed that "the *Holie Crosse* which by the high provision of our Lord God was conveyed, brought & delive'd to us from the Isle of Cy (Scio) in Greece, set in gold and garnished with perles and precious stones. And also the preciouise relique of oon of the legges of Saint George set in silver parcell gylte, which came to the hands of our broder and Cousyn Loys of Fraunce the tyme that he wan and recove'd the City of Millein (Milan) the geuen and sent to us by our Cousyn the Cardinal of Amboys legat in Ffrance the which pece of the holie Crosse and leg of Sainte George, we wol be set upon the said *Aultier* for the garnishing of the same vpon al principal and solempne fests and al other fests aft' the discretion of oure Chauntrey preists singing for vs at the same *Aultier*."—Then follows a further account of the several vestments, Chalice of Gold and Silver, Cruets and Candlesticks of silver gilt, Images of Our Lady, St. John, &c.

All this shows that the monument at its completion was of unparalleled magnificence, but this particular part seems to have grievously hurt the susceptible feelings of the pious Puritans, for the Vandals have not left a vestige of anything remaining.

The pierced work in the corner pillars originally contained enamelled plates of the favourite devices of HENRY—the rose and the portcullis—but of these nothing at present exists to guide the antiquary in his research. There are several other doubtful points which we could wish were cleared up; for instance, What surmounted the corner hexagonal pillars? for it is difficult to believe that they originally terminated as at present. Also, what was the nature of the filling in to the cross ribs which formed the internal covering to the effigies, and connected the opposite sides of the structure? These and several questions of minor importance suggest themselves to the student of this noble specimen of British art, and it is to be hoped that among the future discoveries in the Abbey there may be sufficient evidence forthcoming to clear up these doubts, and so enable us to restore the monument to its original pristine grandeur.

F. L. PITHEE.

COMPETITIONS.

UNDER this heading we propose to give each week, or as often as may be necessary, a brief account of the conditions of such competitions as may at the time be open to the profession. In doing so we shall point out what conditions have been framed in accordance or at variance with the rules agreed upon at the General Conference of 1872; beyond this it will not be our province to go, our object being to help the reader to ascertain (more than an advertisement can) whether the conditions of a particular competition are likely to meet with his views, rather than to furnish a reprint of such details of requirements, &c., as he must, after all, obtain for himself. The numbers refer to the corresponding paragraphs in the General Conference Rules above mentioned.

Paisley Town Hall.

1. "The committee appointed by the Corporation are to be the sole judges;" no professional assessor must therefore be expected.
3. The required scale is given, as also the condition, of "flat tints without shadow, in sepia or Indian ink only."
4. The cost not to exceed 18,000*l*.
5. Power is reserved to exclude from the competition designs which are in violation of paragraphs b, c, e, of this rule.
6. No exhibition is promised.
7. There is no undertaking that the author of the adopted design shall be employed in its execution.
8. There are three premiums, of 100*l*., 50*l*., and 25*l*.; the aggregate amount is therefore just under the one per cent.
9. The selected design is not to remain the property of the author. Time, extended from February 1 to March 30.

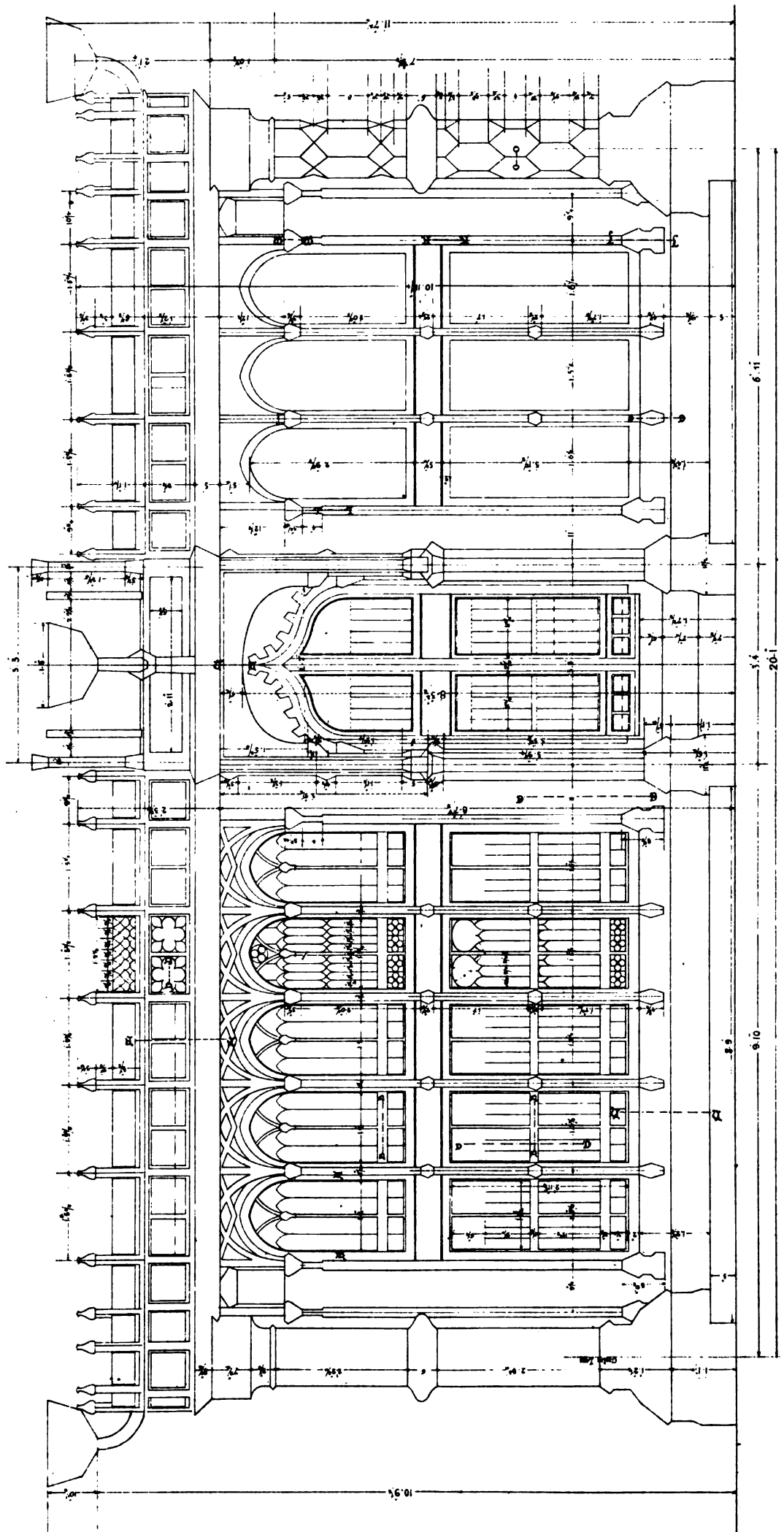
Oban Schools.

1. No professional assessor.
3. The scale is given. Perspectives not mentioned.
4. No cost is stated, but "The School Board will have very fully before them the estimated cost as an element affecting the award."
6. Exhibition is not promised.
7. The Board "distinctly stipulate that they do not bind themselves to engage the services of the successful architect to carry out the work."
8. There is only one premium, of 10*l*.; not sufficient, considering an accommodation for 400 pupils, and even this premium may be withheld.
9. The premiated design is not to remain the property of the author. Time, April 1.

New West Herts Infirmary.

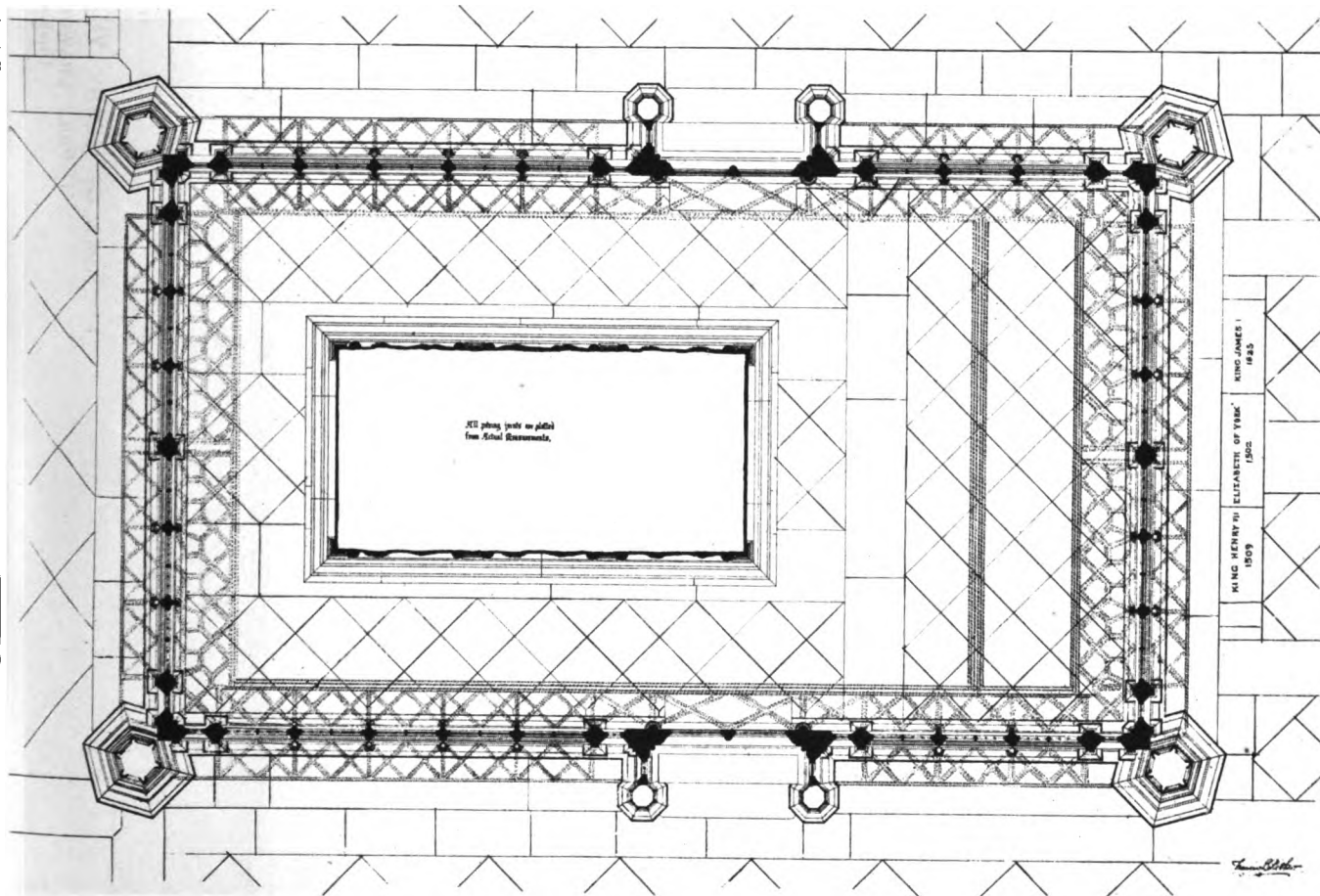
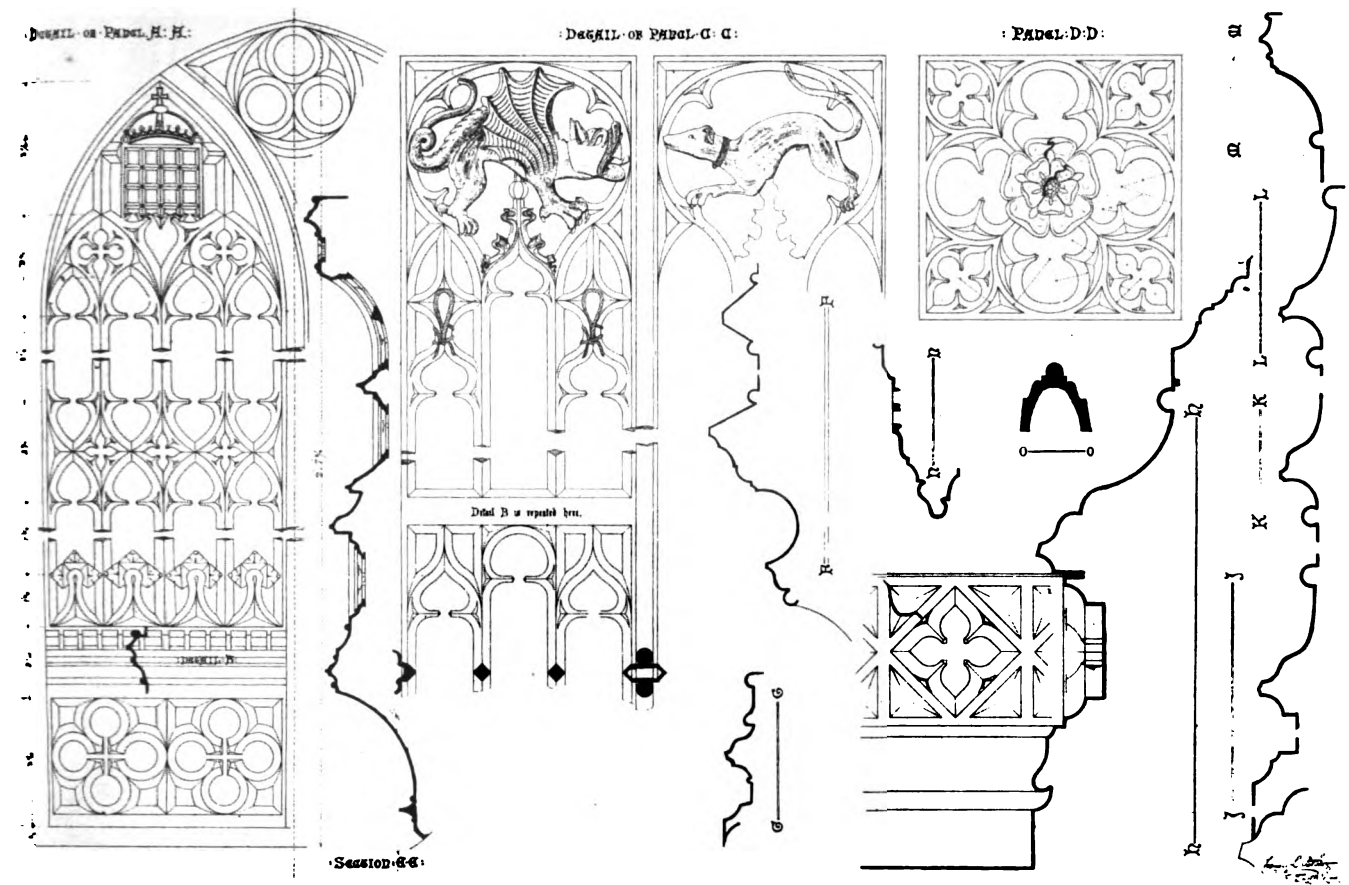
- Not in accordance with rules 1, 3, 4, 6, 7.
8. Two premiums, of 50*l*. and 30*l*., but the Governors do not bind themselves to accept any design. Time, April 17.





TOMB OF HENRY VII. WESTMINSTER ABBEY. II.
PRIZE DRAWING ROYAL ACADEMY 1874.
DRAWN BY F.L. PITHER.

Printed by W. Dymally & Co. London, E.C.



TOMB OF HENRY VII. WESTMINSTER ABBEY. III.
PRIZE DRAWING ROYAL ACADEMY. 1874
DRAWN BY F.L.PITHER.

Printed by W.W. Symonds & Co. London E.C.





A. G. Webster Del^o



Engraved by W. W. Sympson & Co. London E.C.



THE ARCHITECTURAL ASSOCIATION.

THE usual fortnightly meeting was held on the 19th inst., Mr. G. H. Birch, President, in the chair. Mr. J. Young, 3 Great Winchester Street Buildings, was elected a member; and a vote of thanks was passed to Mr. Ewan Christian and to the Rev. D. Eldedale for their courtesy on the occasion of a recent visit paid by members to the church of St. John the Divine, Kennington.

The CHAIRMAN read a communication from Mr. A. Marks apprising the Association that the Oxford Arms, Paternoster Row, was being advertised for sale by auction, and a few gentlemen, chiefly artists, had combined to have photographs of it taken. As one of the subscribers Mr. Marks was now making the requisite arrangements, and about four views would be taken, the cost not to exceed 10s. 6d. per set. It had occurred to Mr. Marks that some of the members of the Association might desire to have sets, and he stated that he should be happy to receive the names of any who were so disposed. The Chairman observed that as the Oxford Arms was one of the few remaining old hosteleries left in London, some of the members would probably like to avail themselves of the offer of Mr. Marks. A communication had also been received from the secretary of the Statistical Society in reference to the Howard medal, stating the following to be the title of the essay, to which the medal would be awarded in November, 1875 (the essay to be sent in on or before June 30, 1875): "The state of the dwellings of the poor in the rural districts of England, with especial regard to the improvements that have taken place since the middle of the eighteenth century, and their influence on the health and morals of the inmates." The Chairman also called attention to the beautiful drawings exhibited by Mr. R. C. Page as Pugin student for 1874, and mentioned that Mr. Neale, the winner of the Pugin studentship this year, was a member of the Association.

A Paper was then read by Mr. J. J. STEVENSON ON

Queen Anne and other forms of free Classic Architecture.

In the course of his preliminary remarks Mr. Stevenson pointed out that a movement such as the Gothic revival was perfectly natural and legitimate, and it was unavoidable that everyone should be affected by it who was not too ignorant or too dull to be influenced by the best thought of his time. Such a revival adopted only so much of the past sentiments and modes of thought as were consistent with the present life; and so the earliest architecture of the Gothic revival at Strawberry Hill and Abbotsford was a mere outside show of castellated Gothic features thrown over the common vernacular, and not natural outgrowths of that. It was a mere sentiment which did not really affect the ordinary daily life, and perhaps truly expressed the extent to which the romantic revival had influenced modern times. But whether or not the early attempts at Gothic—a mere surface of sentiment on the ordinary life—truly represented the depth of the Gothic revival, it was impossible that the revival could rest content with them. It was inevitable that with the study of old work which everywhere commenced, and the consequent perception of its logical consistency and beauty, the absurdity of such representations of it should be felt. Architects, shown the way by a few original men, learnt its secret, and expressed it in new works which it would be false to say were copies of the old. It was a curious phenomenon, showing how truly Gothic had become a part of its admirers, that in the minds of many of them it went through the same natural changes as in its original growth of Early English or Early French, of Decorated, and, now with some, Perpendicular.

In all these styles (said Mr. Stevenson) the Gothic revival has achieved marked success in churches, and is now established as the proper style in which to build places of worship to whatever sect belonging; embodying traditional sentiments and feelings which still have their influence. It would, he thought, continue to be used for our churches, because constructively it was suited for them, though not for ordinary dwelling-houses.

By Gothic he understood the development of arched construction in the pointed arch, in vaulting, and in traceried windows, which the architectural genius of the middle ages produced. The progress of the style was a development of these features, none of which have a natural place in our modern houses. They were suitable for such buildings as churches or great halls, but not for houses divided into a number of comparatively low storeys. Gothic architecture did not grow up as the expression of domestic wants, and in attempting to express them, even in mediæval times, could not properly make use of its most characteristic features. Hence in this country, in the Tudor age, Gothic architecture developed into Perpendicular; in France, at the same period, into the earlier style of Francis I., and then it gave place to Classic.

From its nature unsuitable for domestic purposes, and a serious innovation on established habits, Gothic architecture in the late revival, while appropriating the whole field of ecclesiastical, has little affected domestic building. Some years ago, like many others, Mr. Stevenson said that he should have thought it an abandonment of principle to attempt to design a house in any style but Gothic; but he contended that the same principle of growth which had driven us through the various styles of Gothic has merely continued, producing the same sequence as of old—a sequence not of time only, but of logical and natural development—leading us, in spite of all previous training and prejudice, to see in the styles which historically succeeded Gothic, the true outcome of the Gothic revival, which still influenced us, as applied to modern domestic work. By using these styles for houses, he believed that we better expressed the true spirit of Gothic than by copying for that purpose Gothic forms.

In supporting this assertion Mr. Stevenson proceeded to enumerate some characteristics in architecture, which the Gothic revival aimed at reproducing for our use and enjoyment, and to show that we better attain these ends by using the free Classic styles than Pointed Gothic. That style being developed originally for ecclesiastical, not domestic, buildings, when applied in the late revival to the latter a new development arose, which consequently had more of modern than ancient character, and somehow

had adopted the worst characteristics of modern architecture. This was one cause why those who loved old Gothic had become disgusted with modern domestic Gothic, and had abandoned it for the free Classic styles, in which they found the simplicity and quietness of old work, its picturesque and quaintness, its want of formality and freedom from restraint, and especially that flavour of the past the returning to which was a chief motive power of the Gothic revival.

One of the most powerful arguments in favour of Gothic as opposed to the ordinary Classic, which prevailed at the time of the revival, was its freedom and pliability—not insisting on rule that crushed out freedom and life—denying that the whole art of architecture consisted in following certain immutably fixed proportions of the five orders, proclaiming that there might be orders as various as the leaves of the forest, and dissipating the dullness of endless repetition. Thus the Gothic revival had done good service, but not without introducing another evil—of lawlessness.

But this freedom of Gothic the free Classic styles which succeeded it inherited. Symmetry, though aimed at as a rule, and rightly so, as was the case with Gothic also, was not essential, and regularity was freely abandoned. Large windows or small, with or without mullions, were used just as they were needed. The plan might be as irregular as the uses of the building demanded—great halls side by side with small retiring rooms, each with windows of the size and in the position which convenience dictated. And as to the freedom and variety of mouldings, so far as Mr. Stevenson's experience went, there was as much or more existing in these free Classic styles as in Gothic. In illustration and proof of this he exhibited drawings of various cornices which occurred in the internal fittings and furnishing of a single house, some modern, others from old cabinets.

One of the principles which the Gothic revival insisted on with great energy and eloquence was the necessity of Truth in architecture—that the construction should be apparent and should be made beautiful—that there should be no false imitation of materials, no oak graining or painted marbles, and no cast or machine-made ornament. And in this sense a reform was certainly needed, which the Gothic revival did good service in promoting; but this element of truth was not the peculiar possession of Gothic architecture. As a fact, Modern Gothic had too often found the temptations of a deceitful age too strong for it, and had fallen into the sins of the style it attempted to displace.

The principles of absolute truth in architecture had to bend to many modifications in actual practice. Domestic architecture must be pleasing. There was no more necessity for showing the grain of wood and forbidding paint—or for leaving brick or stone walls without plaster than there was for nature exposing to view our viscera—Modern Gothic had, rightly Mr. Stevenson thought, modified its high pretensions in regard to truth both of material and construction. Still, to the noblest architecture (which could seldom be domestic architecture), both were essential, but he believed that if we carried them out in our modern houses, making use and convenience govern the forms, the result would not be Gothic either modern or ancient.

What is loosely called "the Queen Anne style" is the natural outcome of common London materials and modes of building, and of modern appliances, such as sash windows, and Mr. Stevenson, therefore, thought that it displayed more perfectly than modern Gothic the principle of truth on which the Gothic revival insisted, whilst it also embodied an important characteristic of Mediæval Northern Gothic. Grecian architecture depended for its effect on shadow, in the recesses of the portico between the columns, as did Roman in its deep massive arches. But Northern, especially English Gothic, dwelt on the surface of the wall, carried the wall over the window openings by means of tracery, and filled the windows with thick stained glass which reflected the light from the outside, and with the delicate pattern of the lead-work, continued the effect of surface over the whole building, forming a species of ornamented wall veil.

Both shadow and surface were legitimate aims in architecture, each right in its proper place. Shadow gave grandeur and dignity, surface, quietness and refinement, and was, therefore, Mr. Stevenson thought, better fitted for our domestic architecture. The free Classic style, it would be seen, embodied many of the principles which were the motive power of the Gothic revival; this adoption of Gothic principles and spirit being found more or less in the different forms of free Classic which the various countries of Europe produced. He maintained that the free Classic styles of architecture (of which Queen Anne was one of the least important) furnished a means of expressing the characteristics of the Gothic revival most suitable for our use, and that it was natural and inevitable that those who, imbued with its spirit, had lived over again in their own lives the successive phases of its historical development, should have made the same advance from them which had been made in the Renaissance age.

In drawing to a conclusion, Mr. Stevenson said his object had been to explain how it happened that these free Classic styles are now practised by architects who, not long ago, were such exclusive admirers of Gothic art that they could sympathise with Mr. Ruskin's denunciation of these styles as the foul tide of the Renaissance. At the same time he had no desire that any one who loved and admired Gothic architecture, and felt that it was the style which best expressed his thoughts, should give up practising it, for that would be a misfortune to their art; as it mattered little what style a man used, or what language, provided he understood it and could use it correctly.

While disclaiming any wish to argue in favour of the general adoption of the free Classic styles, or to defend them from the faults of which architectural critics accused them, Mr. Stevenson said he could not help mentioning one practical advantage in employing them, namely, that fundamentally in their systems of construction, in the forms of mouldings, they were the same as the common vernacular style which every workman had been apprenticed to, had been used to work in, and consequently understood; and to produce good architecture generally throughout the country it was essential that those who guided the art should choose paths where workmen could follow. The free Classic styles were the vernacular architecture with

a spark of life added, a touch of interest and art. "Dare we hope that this spark may revivify the mass, that we may see again a living national architecture."

Mr. L. W. RIDGE said that he rose to propose a vote of thanks to Mr. Stevenson for his very able Paper, because, through no fault of his own, but by reason of the unavoidable arrangements of the committee, it might be gathered that he (Mr. Ridge) intended at the next meeting to read a Paper on the subject of Queen Anne in opposition to the Paper of Mr. Stevenson. He wished to disclaim any intention of that sort. The circumstances were these:—The subject of "Queen Anne," so called, had been exciting much attention; so much so that when the conference of architects met last summer, the principal artistic subject considered, and to which a meeting was devoted, was the revival of this free Classic style commonly called Queen Anne. He then felt it was a subject which might properly be considered in such a society as the Architectural Association, and volunteered to the President to read a Paper upon it in the then ensuing session. When the committee met to arrange the Papers, as Mr. Stevenson had consented to read a Paper on the same subject, and as the committee thought the subject one of very great interest, it was decided that two evenings might be devoted to it, the Papers being respectively fixed for reading in the order in which they now appeared in the syllabus. He had a distinct notion of treating the subject of Queen Anne in regard to its influence on the Gothic school, but desired to lay aside the idea that he was necessarily taking a view of the subject antagonistic to Mr. Stevenson: for he believed that no essential difference of opinion existed between them, and felt that it would be the greatest mistake if the profession were divided in opinion upon the subject, a mistake from which the profession had suffered many years in consequence of the division between the Gothic and the Classic schools. He acknowledged that he did not agree with a very large number of the facts stated and the conclusions drawn by the lecturer, but admired all the more on that account the beautiful manner in which he had brought forward his views. Probably many in the room had been very much captivated, and were probably nearer becoming votaries of Queen Anne than when they entered. In one respect he shared the admiration of Mr. Stevenson for the free Classic styles, and that was because they were free, not because they were Classic.

Mr. E. J. TARVER, in seconding the motion, expressed his conviction that great watchfulness was necessary in the use of the Queen Anne style for the exterior; he had found it of greater use internally.

After some observations from Mr. MARNOCK,

Mr. R. PHÉNÉ SPIERS said there was no doubt that the theme to be touched upon by Mr. Ridge at the next meeting would be somewhat akin to the subject Mr. Stevenson had been considering. He had come down unprepared to make any remarks, from the fact of his not having given the subject much consideration, and was not sure whether he had read Mr. Stevenson's former Paper, read before the Institute. He confessed that, whilst listening to the lecturer, he scarcely knew whether he was standing on his head or his heels—the views put forward being so novel and startling. Speaking of his own experience, he might mention that, about twelve years back, he returned from France imbued with strong Classic notions and a great dislike for anything Gothic. He had to fight his way for years with students who were strongly imbued with Gothic predilections, and he found a difficulty in finding arguments in support of his views—seeing that he had been educated in argument in France, where they had it all their own way. But now the tide was turned (No, no); and if the present question had assumed the form of a general discussion, he should have felt disposed to take up the style of the Gothic in preference to the Classic. He had failed to follow Mr. Stevenson in his arguments, and also in his proofs. He said that students began first at the earliest styles, and then crept up to Perpendicular; and that this lapse to Queen Anne was the natural consequence of what had taken place during the last twenty years—stepping from one phase of Gothic to another, and ultimately to the Queen Anne. But, unfortunately, Mr. Stevenson stopped there, and did not say what we were going to do next. (A voice: "Sufficient unto the day is the evil thereof.") He (Mr. SPIERS) thought it would be found that the Perpendicular style was first taken up by the modern Gothic revivalists; the purer forms being thought better fitted for revival, so much so, that, if it had been possible, Norman structures would have been raised—as being of a still purer type—but that was out of the question, on account of the thickness of the piers and the smallness of the windows. He did not think there was an architect more generally admired than Mr. Burges, or one whose works had more influence on students, and yet his works were based on Early French architecture. Supposing Mr. Stevenson's conclusions were correct, what was to become of all the periods between the Perpendicular and the Queen Anne? He had not seen designs of the Elizabethan and Jacobean periods, and thought that Mr. Stevenson's reasoning was wanting in consecutiveness. He was also at a loss to understand how long the Queen Anne movement was going to last, but he knew, to some extent, how it originated. About five or six years ago he called upon a leading Gothic architect, and noticing a long elevation in his room of what seemed to be a portion of Hampton Court Palace, he asked what he was going to do with it, and was astounded on receiving the reply that he was going to build it. Considering the design was so contrary to Gothic principles, he had some conversation with his friend respecting the different points involved in the style; and in suggesting that the woodwork should be painted, his friend said:—"No, my dear fellow, graining is the thing." He reminded his friend that about three years previously he had told him that graining and all such devices were abominations; but he did not seem to think that he was at all inconsistent. But what Mr. Spiers feared the most in connection with the Queen Anne movement was its baneful influence over students. If Classic architecture was to be learnt at all, it must be learnt by going back to the earlier elementary examples, and it was impossible to learn what really were the principles of that style by taking decadent and

debased examples of Queen Anne as exemplified in Queen Anne. (A voice: What is the use of true Classic?) Mr. Spiers apprehended that the use of true Classic was to impress the mind with true ideas of proportion—ideas which it was impossible to obtain from the study of Queen Anne. He maintained that the method adopted in the French school of imparting the knowledge of Classic architecture was the proper one; the students being thoroughly grounded in Classic principles. In England some of our best architects were not brought up in the Gothic school. Mr. Norman Shaw, the first teacher in the Queen Anne movement, first studied Classic, and went carefully through the orders. He obtained a medal at the Royal Academy for a very clever Classic design, and afterwards cultivated Gothic; but his church at Lyons showed that he was a master of the Classic style. His later works, since he began to work in Queen Anne, were, Mr. Spiers thought, less happy than his former ones. He was sure that no student starting with Queen Anne could meet with the success of Norman Shaw. Mr. Stevenson had recommended Queen Anne on the score of convenience, and its applicability to domestic architecture; but they wanted principles on which to reason, and such principles were entirely wanting in the Queen Anne style. Mr. Stevenson had drawn attention to a number of mouldings of that type, but he thought they were deficient in light and shade. Although he had no objection to students who were acquainted with Classic art amusing themselves at times in the mode indicated by Mr. Stevenson, he did object to their starting with variety in the hope of working back to first principles; and, in conclusion, he expressed his surprise at the views enunciated by a gentleman who was formerly attached to the Gothic school.

Mr. T. BLASHILL said that, whatever fault might be found with Mr. Stevenson, they must at least give him credit for consistency. As in dress, so in architecture, there were changes of fashion, and so it was incumbent upon them to suit the tastes and endeavour to meet the wants of the times. Instead of aiming at the reproduction of what was antiquated and out of fashion, students ought to have impressed upon them the necessity and importance of complying with the requirements of the age; the want of aptitude in that direction being so often charged against architects. The Queen Anne was merely a change of fashion, not of style; it was abject copyism, not of beauty, but of ugliness. He could understand visiting and admiring old remains on account of their beauty, but the reproduction of what was absolutely ugly naturally excited astonishment. The reason they had the Queen Anne style was on account of its adaptability to domestic requirements; and he agreed with Mr. Stevenson that the Gothic was an ecclesiastical style, and not adapted to ordinary requirements for business purposes, and so on. Architects had no alternative but to suit the convenience of their clients, and, in spite of want of uniformity, the buildings must be adapted to the purposes for which they were designed. They wanted the buildings to fit their clients as the nautilus fitted his shell. Students should keep before their minds the necessity of fitting their architecture to the period and the people, and not be continually thinking of the old styles. They must think more of fitting clients with the buildings they wanted, and look more to the actual wants of the age.

The motion having been put from the chair and carried by acclamation,

Mr. STEVENSON acknowledged the vote, and said he also felt pleased and grateful that his Paper had been received with opposition. He did so because after all it was of very little use talking about architecture, if talking was all they did; but the object of Papers mainly should be to set them thinking, and then the more that the Papers were opposed and talked about the better would they attain their object. One of the speakers (Mr. Marnock) had gone on a wrong principle, and one likely to lead to a very great mistake. Mr. Marnock had quoted the very grand and noble architecture of the South of France, and he seemed to imply that because this architecture was so grand, and because a Gothic cathedral was like a spider with a pin stuck through it, we ought, therefore, to build like the Romans. But we were not Romans, and no man by taking thought could add a cubic to his stature. The principle laid down by Mr. Blashill was the true one, with regard to the fitting of the building to the client, like the shell to the nautilus; but if Mr. Marnock's theory were to have any weight, why should they not go back to Egyptian architecture, which was grander and more massive even than Roman. He had no wish to persuade any one to take up one style of architecture more than another, but had merely attempted an explanation of how it was that many Gothic architects were now designing in free Classic styles. Whether the drawing which Mr. Spiers saw about six years ago was the origin of the movement he could not undertake to say. He did not deny that he might perhaps have laid too much stress on the sequence of styles; but although it was true that the Perpendicular was the earliest style of Gothic taken up in the Revival, this was because its features most readily gave to the common Classic which was used the touch of Mediævalism wanted. Mr. Spiers had objected to Queen Anne because it was a bad style for training students in, but he was not so sure of its being a bad style for a man who wanted a house built. He agreed with Mr. Spiers that it was a bad style for students to cut their teeth on. His idea had always been that a student should be put rigidly through the orders, for it was better to know some law and have a knowledge of the rules of proportion; and he thought that those who had been trained in Gothic freedom were not so successful as those who had been brought up by steadily going through the orders. It was desirable that the student should, in the first instance, be made acquainted with those laws and principles which had been ascertained and settled by human experience, and which were, to some extent, embodied in the five orders. His aim had been to show how much of what was valuable in Gothic had been retained in these free Classic styles, and that it was therefore quite natural that men who had been enthusiastic for Gothic should take up those styles. With regard to Mr. Blashill's view, that a man should not be always copying, but invent for himself, that was perhaps not so easy; and it was affectation to attempt to be original merely for the sake of being original. If a style was perfected, it was better to follow it than to make futile attempts at originality.

THE DIVERSION OF THE TIBER.

SIGNOR ARRIVABENE, the Italian engineer, has prepared a report on the project for the diversion of the Tiber and the reclamation of the Campagna.

The Tiber, he says, receives many confluent streams; and these tributaries, which are for the most part brief and steep in their course, and form a series of arteries which carry off the rains not absorbed by the earth, and convey them to the central river, which, different from the rivers of northern Italy, is scarcely ever at "low water."

During floods the waters have never risen to a less level than 15 metres 54 centimetres.

The destruction of the woods and forests that surround the Tiber has contributed not a little to the terrible floods of modern times. The overflowing of the short, steep tributaries, the sinking of the banks, the obstacles offered by the bridges, the sandbanks formed at the mouth of the river, all tend to increase the magnitude of each catastrophe. Besides the inundation of the Campagna and great part of the city by the actual overflowing of the Tiber, the under soil remains literally soaked in its vicinity, and the waters filtering up the adjacent buildings menace them with gradual and constant ruin.

Various plans have been proposed to avert this.

1. To lower the level to which the waters attain at their maximum height.

In order to succeed in this, it has been proposed (a) to partially rectify the tortuous course of the river below Ponte Felice; (b) to enlarge the bed of the river by dredging, and removal of the impediments in the bed and about the embankments by alteration in the peculiar construction of the bridges; (c) to raise and strengthen the embankments in the parts where they are deficient.

2. To limit the extension of the floods by confining the river between lofty embankments.

To effect this it has been proposed (a) slightly to deviate the course of the river at its ingress to and egress from the city; (b) to deepen and extend its bed; (c) to construct boulevards whose walls and parapets above the Tiber's level should defend the city from its inroads; (d) to construct great reservoirs to collect the drainage that now flows into the Tiber.

3. To deviate the river from the city by compelling it to return to its original bed below Rome.

For this purpose it is proposed to form a canal, which, starting from the north of the city, and winding round it externally, shall carry off the superfluous waters and empty them again into the river at a point considerably below the city; to deepen and enlarge the bed of the river as proposed in the two former systems.

None of these systems seems to Signor Arrivabene to offer a rational prospect of radical hindrance to the inundations of the Tiber; though they would, without doubt, modify the ravages. He doubts the efficacy of the partial remedies proposed on scientific grounds, and as demonstrated by the gigantic works of embankments, excavations, partial deviations, exportations, &c., which for centuries have been lavished on the Po, whose inundations, nevertheless, increase in violence and frequency every year, the enormous sums which these problematic modes must cost would suffice for a far more radical and permanent undertaking—such as that proposed by General Garibaldi.

Together with the advantage of rescuing Rome from the inundations of the Tiber, this last couples the project of the reclamation of the waste lands of the Roman Campagna, and General Garibaldi's plan, broadly stated, is the complete deviation of the Tiber at the confluence of its tributary the Amine, whose bed enlarged would serve to convey the central river to Ponte Marumolo, whence it would be conveyed by the least expensive canal, defended by embankments, to the sea; the bed to be sufficiently wide and deep to receive the utmost volume of water that the heaviest flood might contribute. The present bed of the Tiber he would preserve, reducing it by a system of dams, locks, and sluices, to a safe and navigable canal, containing at all times sufficient water, and fitted to receive the drainage from the artery of artificial canals, which would serve to irrigate regularly the surrounding Campagna on the right of the Tiber, and convey the surplus to the sea.

The new Tiber, carried out to the east of the city, would also be navigable even for large craft, and by subsidiary courses would irrigate and fertilise the soil around. At the mouth of the river a seaport would be constructed, connected by railroads and two cross canals with the old and new Tiber, so as to further and increase the commerce of the capital. This undertaking would greatly facilitate the archaeological researches in the bed of the old Tiber, whence will inevitably be recovered the enormous material wealth, historical and monumental treasure, hidden there for ages. At the same time, the hygienic conditions of the city would be at once improved, and the city extended towards the new Tiber, which would serve it at once for ornament and defence, for the purposes of navigation, industry, and commerce. Whether the project be realisable in its main features, what modifications it must undergo, will soon be known, as engineers and scientific men are about to survey and report at once upon the scheme.

There need be no doubt that every material and natural obstacle can be overcome. All depends on the financial question. At the same time it may be well to state the difficulties that occur at a first glance.

(a) In the deep channel or bed that must be excavated for the Tiber's new course, it is probable that tufa and spent lava may be met with, but if the expense of excavation be greater in consequence, it will be compensated by the material extracted, which will serve for construction of walls and other masonry. (b) Towards the mouth of the new river, as the works near the sea, special machines will have to be used, owing to the inevitable presence of under currents of water. (c) The works, locks, sluices, &c., at the point where the course of the old river would intersect the new, will

have to be of the most solid, robust, and permanent quality. All the other works are of an ordinary nature, nor present any specially expensive features.

Mr. Gabrielli, the contractor, of Westminster Chambers, has, it is said, offered to find the necessary funds, and to construct all the works, if the Italian Government will guarantee 5 per cent. interest on the outlay.

Messrs. Wilkinson & Smith, engineers, of Westminster, have been entrusted with the preparing of the plans for forming a harbour in connection with the intended ship canal to Rome at Fiumicino, near the present mouth of the Tiber. The plans are to be prepared with all expedition, to enable the works to be commenced as early as possible.

YORKSHIRE ARCHITECTURAL SOCIETY.

LAST week the annual meeting of the Yorkshire Architectural Society was held in the School of Art, York. The hon. secretary read the annual report, which stated that the number of members was satisfactory, and that the balance in hand was 194*l*. With regard to the work done there had been a commencement published of the series of drawings of the stained glass in the Minster, which would be followed by drawings of the glass in the vestibule in the Chapter House, and in the meantime the committee decided upon publishing a reduced drawing from the ancient and curious painting on the walls of Easby Church, Richmond, to be accompanied by a description, and to range with the occasional Papers put forth by the Society. After describing the summer excursion, the report referred to the restoration of York Minster. Four years ago Yorkshire was taken by surprise at learning the dangerous condition of the south transept of the Minster. In November of last year the work of renovation was so nearly completed that the transept, which had long been shut off from the rest of the building, was again opened to view. The first thing to be done was to relieve the walls of the weight of the roof. To this end the whole of the interior was filled with scaffolding, upon which the new roof was built, meanwhile the rebuilding of the clerestory was proceeded with on both sides, and ultimately the roof was lowered to its place. The new work is an exact recasting of the old: the stone is, as nearly as possible, from the same quarry. The whole of the interior has been cleaned, and much of it tooled over, so that the old and new work blend together. The new roof is of oak, with good bosses gilt and coloured. The clock has been replaced by an arcade of small arches. The Purbeck marble shafts in the clustered columns have been renewed or replaced, and the south transept now looks as well as ever it did, with a fair prospect of lasting as long as it has already stood. The monument of its builder, Archbishop Gray, who died 1225, has been cleaned; and nothing remains to complete the work save the removal of the thick and lofty iron railings which prevent the sight of the beautiful effigy. Externally there remains much to be done, but it is estimated that it will be all finished by the end of the year. The cost has hitherto been about 16,000*l*., and about 4,000*l*. in addition is required to complete the repairs. The energy of the Dean and Chapter displayed in the collection and expenditure of this sum has been beyond all praise, and if there were nothing else wherewith to mark the tenure of office by the present Dean, yet his name will be always mentioned in future in connection with the beautiful and substantial restoration of the South Transept of York Minster.

The Rev. G. Rown read a Paper on

Lastingham Church,

which stands in a secluded part of the south edge of the Yorkshire Moorland. Here, it is supposed, was very early placed a monastery, of which the church alone remains. Nor is the present one the first that has been built, for probably the old stones preserved in the crypt belong to some older fabric on the same site. Bede came to the monastery to hear the account of its foundation, and gives it in his history. From this it appears that the plot of ground which Ethelwald, King of Deira, gave to Cedd, the brother of St. Chad, was at Lastingham. This word has been variously translated to mean "home of the Lastings," "water of the Lastings," and "the lasting home" of those who lived and died here.

We have now a small church, consisting of apsidal chancel, nave, aisles, and tower. It was originally a Norman fabric, the date of which will be about 1160. This Norman church appears, from the square massive character of the central piers, and some perpendicular angles in the stonework above, which are carried into the roof, to have had a tower to the west of them. What are now responds, go completely through the wall, and show externally as clustered Norman piers. Inside, on the base of the northern one, is a curious chain moulding. Further west, have been discovered the foundations of other piers, proving that the Norman nave was prolonged in that direction. The Paper described the relics of Norman work yet visible, as well as Early English and Decorated. The windows in the south aisle and some in the clerestory have recently been added, perhaps in 1826, when also the south doorway underwent restoration from a design of Jackson's. A large organ-loft completely fills the west bay, and a screen beneath it separates the doors and font (which is plain) from the church. The first impression on entering the nave is that of extreme surprise; then one almost forgets that it is a church at all—it has been so completely turned into a gallery for "the picture." The roof of the apse has been elevated into a glass lantern, with what effect outside may be imagined. This is glazed with maize-coloured glass in order to give a kind of artificial light. The apse itself is converted into a circular temple by the introduction in front of it of tall wooden piers with imitation Norman capitals, so as to form a dark frame to the painting. Between these the communion rails extend. No doubt the author of these alterations thought that he was beautifying the House of God, and forgot or overlooked, as was then not unusual, the purpose for which it was erected. But this will not justify the present generation in doing the same. It may be suggested that the picture should be placed at the end of the north aisle before the vestry.

SCIENCE AND VENTILATION.

ON the 19th inst. Mr. W. N. Hartley, F.C.S., delivered a lecture before the Chemical Section of the Society of Arts on "Air and Ventilation," Professor Odling being in the chair.

In the course of it he said:—It has been proved, by experiment, by Pettenkofer, of Munich, that the passage of air through the wall of a house is very considerable. He examined the walls of an ordinary room in his own house, and found the change of air through the brick walls in a room, the cubic contents of which were 2,650 feet, when the difference between outside and inside amounted to 34° F., amounted to this:—

	Cubic feet.
With a fire	2,650
All crevices stopped	3,320
With a difference of 7° Fah.	1,060
Window open 8 feet square	780
	1,060

This illustrates what takes place in winter, when one's repugnance to cold air causes one to shut the door and windows and have a roaring fire. The air which cannot get in by crevices or by doors makes its way through the walls, that is to say, the doors and windows being shut, a certain increased amount of air passes through the walls into the room. What is the advantage of this? It is this, that we are supplied then with fresh air free from draft. Ventilation is not supplying fresh air, but supplying it free from draft, and this natural source of ventilation gives us really true ventilation. The amount of carbonic acid in the air may be taken on an average as about 4 parts in 10,000, and in order to keep the air fresh we should not allow the pollution of the air to extend to a greater quantity than 2 parts in 10,000 over this. Therefore the extreme of carbonic acid in the air is 6 parts in 10,000. When the amount is more than this, the air begins to be close, that is to say, we begin to feel by the nose that there is a certain pollution in the air which you cannot exactly account for. Six volumes in 10,000 is the amount of carbonic acid which is allowable, and all above this must be considered unwholesome vitiation of the atmosphere. Then in close places, that is to say, in places which contain more than 6 volumes in 10,000, of which there are many—workshops, offices, public buildings, theatres, all contain, generally speaking, much more than this—we have an atmosphere which can be known as unwholesome simply by the nose. The nose tells us there is something in the air which ought not to be there. What is the reason of this? It is not carbonic acid, because we cannot detect carbonic acid by the nose. It is a certain amount of organic matter thrown off from the lungs, generally speaking from the body in some form or other, which is traceable, and this organic matter rises in proportion directly with the carbonic acid. Therefore, if we measure the amount of carbonic acid in the air we measure the amount of pollution by organic matter, and by determining the carbonic acid in the air, which we can do very accurately by chemical analysis, we also determine the amount of organic matter which vitiates the air. We do not know the organic matter, but we know there is more than there should be. In buildings in which the natural ventilation is not allowed free play, and in which no extensive mechanical appliances are used to contribute fresh air, this vitiation of the atmosphere goes on to a very great extent. For a few examples of this we have the analyses made by Dr. Angus Smith, and we find by this table that in workshops he has found the air so bad that it rose as high as 30 parts in 10,000; that is to say, the carbonic acid was very nearly ten times as much as it should have been. In theatres he found it rose to 32 volumes in 10,000 of air, in mines 78·5, an enormous quantity, and the largest amount he ever found was 250 in 10,000.

Here is a table giving an analysis of air in different places, made by Dr. Angus Smith. In a Chancery Court, seven feet from the ground, with the doors closed, he found the proportion was 19·35 carbonic acid to 10,000; in the same court, three feet from the floor, 20·3; in the same building with the doors open, that is to say, when the fresh air had entered, it was 5·07 and 4·5. Then in the Strand Theatre, in the gallery it was 10·1, in the boxes 11·1; in the Surrey Theatre at 12 p.m., 21·8; in the Olympic, 8·17; in the Olympic in the boxes 10·14; in the Haymarket 7·5, and so on. In hospitals, where great care is taken to have large free space in the room for each patient, and a supply of fresh air regularly admitted, the amount does not rise above that of the outside air. In the Queen's Ward of St. Thomas's Hospital no more than in the outside air; in the Edward's Ward of the same hospital it was 5·2. These tables show the large vitiation of air taken in crowded buildings, and in the case of the law courts it was almost as bad as any. There was another case, in the Queen's Bench, in which the air is described by Dr. Angus Smith as the foulest air that he ever found above ground. It seems that law courts were always favoured for being filled with foul air. In 1796 Bramah, the inventor of the patent locks, who was giving evidence in a Chancery suit connected with one of James Watt's patents, complained that he could not give his evidence because he was much incapacitated by those maleficent and morbid exhalations ever consequent on large and close assemblies, no doubt the carbonic acid and the organic matter; and he complained that the judge's attention had become flaccid through fatigue. This is really because of the small amount of air which is allowed to each person in the building—that is to say, the small cubic space which is available for each person's use—and, furthermore, that the amount of wall space is very small compared with the production of carbonic acid in the interior of the building. In summer, when the difference between the temperature of the inside and outside of a building is small, it is quite possible in a crowded room like a ball-room for the air to be more vitiated than in winter. Therefore, in theatres in summer we may look for a greater vitiation of the atmosphere than in winter, when the difference between outside and inside temperature is much greater.

Acting upon this, last year I made some experiments at the two Italian Operas, Covent Garden and Drury Lane, and from several experiments made in each case, I found the following numbers:—April 28, Covent Garden amphitheatre, amount, 22·5 in 10,000 of air; near what is called

the ventilator, although the air which was admitted was not pure, it was 17·6, and near an open door it was 14·8. The people in the building were listless and gaping, and evidently wanting in attention somewhat, and did not seem to be lively and animated, and they exclaimed how delightful was the fresh air coming in from an open door, yet this fresh air contained 4·8 volumes of carbonic acid in 10,000. In Drury Lane the average of three analyses was 25·9. You must not think that because these were taken in the upper part of the house that down below there was any great difference. In a private box, for instance, the space is so enclosed that the air very often there is worse than in the gallery, especially at the back of the box. In the stalls of Covent Garden, between the acts, when the curtain is down, the air is then very hot and very impure. I have not made an analysis of that, but one can feel it when the curtain is down; the supply of fresh air is practically cut off, because the supply of fresh air comes from behind the scenes, all other entrances being carefully closed by swing doors, and there being a great want of opening to supply fresh air from the outside. There is no doubt the large amount of gas burnt in a theatre, if ventilation had free play, would considerably modify the passage of pure air. We have heard great complaints about public offices, more especially the British Museum, and last summer I made some experiments on the air of an office of which great complaints had been made, namely in the money-order office in Aldersgate Street. In one room where there were a large number of clerks, a tolerably high room, with large windows, the proportion was 22·2 and something over, in fact it reached up to 25, this being the average of two or three analyses. This is as bad as a theatre. In the same office, on another occasion, without the gas lighted, it was 17·6. In the same office, with the windows open, there were 4·2 volumes, that is to say it was practically the outside air. This gives you a tolerable notion of the amount of carbonic acid, and consequently the amount of pollution in the air in various buildings.

Now, with regard to the amount of fresh air which is necessary for each person. This is far more considerable than you would imagine. The amount of carbonic acid given off by an average size man in an hour, from the lungs and skin, is about 7·10ths of a cubic foot, and if we take it as 6·10ths we shall be below the quantity. A good oil lamp, or a couple of good candles, will also give 6·10ths of a cubic foot. Therefore a man in a room with a lamp or two candles gives 1·5th of a cubic foot in an hour. Now I have told you before that the amount of allowable pollution in the air was 6 volumes in 10,000; beyond that the atmosphere becomes unwholesome. Therefore, in order to keep the air fresh with two men in a room, or one with a lamp or two lighted candles, would have to require this amount of carbonic acid produced with 5,000 volumes of air. He would therefore require 6,000 cubic feet of fresh air, and one man therefore, in occupying a bedroom for instance, would require 3,000 cubic feet for his own use. This is pure calculation. What does the experiment show? In some experiments made in Paris to determine the amount of fresh air which should be supplied to hospitals, it was found, by pure experiment, not by calculation at all, that this should be from 3,120 to 2,470 cubic feet in an hour.

	Cubic Feet
Hospitals	2,120
" for wounded	3,530
" for epidemics	5,300
Workshops	2,120
" for unhealthy trades	3,530
Barracks, day	1,060
" night	12,410 ... 17,650
Large rooms for long meetings	2,120
" short	1,060
Schools for children	424 ... 530
" for adults	880 ... 1,060

Now, in order to get this 3,000 cubic feet of air in an hour supplied to a large audience in any public building, it is absolutely necessary, as far as I know at present, to resort to some mechanical means of supplying fresh air, and a very good instance of that is afforded at the Royal Institution. Very great care was taken there four or five years ago with an upright cylinder going to the roof from under the gallery, in which gas-jets were burnt, and passages connected with windows which entered underneath the seats and above the heads of the audience underneath the gallery, to admit fresh air; but, nevertheless, on a night when there is a good audience at the Royal Institution the air is undoubtedly bad. It is not so much, perhaps, the contamination by the breath as by the gas and heat—it feels extremely hot. To estimate whether the place is close or the air is polluted by breath, it is necessary to enter from the outside directly. That I have not done. I have gone in at the commencement, when the audience were arriving, and remained there to the end. Still, there is no doubt people complain continually about the air in the upper part of the building being extremely bad. There is no doubt that the Royal Institution, from the very fact that such care was taken in the ventilation, is far better than other buildings of the same kind, but it shows that, in order to supply fresh air to a building crowded in that way, some mechanical means must be resorted to. Such mechanical means are at present, so far as I know, a rotating fan, which drives air forward through pipes and distributes it to the building, and such a rotating fan is applied in America to the ventilation of hospitals on a large scale. In summer, when the air is hot, it is passed through ice to cool it; and when in winter it is cold, it is passed over hot-water pipes to warm it; and so a regular supply of fresh air is driven into the building, and allowed to find its way out where it can. In the Stamp Office at Somerset House, which is below the level of the ground, this means is resorted to, and I should imagine, in consequence of their having such a contrivance, that the air was in such a place wholesome. In this country it is not advisable to change the air of a room more than four to six times in the course of an hour. It is therefore necessary, generally speaking, to have a sufficient supply of fresh air to begin with, in order to prevent the air being changed too rapidly, and it has been calculated, as stated by Dr. Pales in his book, that from 750 to 1,000 cubic feet per head is necessary. Of course in a

crowded building where mechanical ventilation could be resorted to, the air could be so warmed as to produce no feeling of draught. I may as well mention what this feeling of draught is, and why it is that diffusion through the walls is unfelt. When the air travels at a lower rate than 19 inches per second, generally speaking, that is to say, if it is not very cold, it is unfelt. There are around us continued currents of air pouring upwards by the heat of the body, causing the air surrounding us to become warm and rise up with fresh air coming against us; still these currents we are unconscious of. It is only by an extremely delicate instrument placed under your top-coat that these currents can be detected. Then on a day when not a leaf is stirring, not a ripple on the water, there are constantly currents playing about; these are unfelt, and are produced at a rate of something less than 19 inches per second. That this rate is unfelt may be proved by passing the hand through the air at a speed somewhat less, and of course passing the hand through the air is just the same as passing the air over the hand if it were stationary.

Ventilation, then, may be considered, generally speaking, as the passage of fresh air to an apartment at a rate of less than 19 inches per second, so as to reduce the carbonic acid in the air to 6 volumes in 10,000. Dr. Angus Smith, who has done such valuable work in the matter of air and ventilation, gives us a means whereby we can estimate whether the air of a room is wholesome or not, whether the vitiation is increased to an extent which is unwholesome, and that is a very simple test. It consists in taking a bottle, which holds 10½ ounces of air when the stopper is placed in the bottle. If I blow the air into this with the bellows, and then take ¼ ounce of lime-water, the test consists of this, that if there is more carbonic acid in the air of that bottle than 6 in 10,000, shaking up this ¼ ounce of lime-water in it will cause the lime-water to become turbid. It is just turbid, and that is all. I should not think from this experiment that there were more than 6 volumes in 10,000. It just shows the slightest trace of turbidity, and that is all. By taking a smaller bottle and the same amount of lime-water, the amount of carbonic acid in the air may be told to the extent of 1 volume in 10,000, and by means of a flexible bottle and the lime-water contained in another apparatus, we may determine the amount with some degree of accuracy.

I will pass over the determination of the carbonic acid in the air, and I will go to another matter, a very important one, which is the carbonic acid in the soil. Pettenkofer has shown that if we take a gravelly soil, cut a piece out, and measure the amount of water that we can pour into it, the amount of water it will take up will amount to one-third the space occupied by the soil. Therefore, the soil consists of one-third of air. Now Bousingault has shown that the amount of carbonic acid in the air contained in the soil was very much more than that contained in the air of the atmosphere. He found that in a field recently manured it amounted to 221 parts in 10,000 of air, and in another field 974, and in a field of carrots 98, a vineyard 96, forest land 86, loamy subsoil 82, sandy subsoil 24, garden soil 36, prairie 179. You see then that what may be called the ground air is highly charged with carbonic acid. When we warm a house by a fire it creates an upward draught, and undoubtedly the air from the soil passes into the house. If you doubt this, a very good case to prove it is the one Pettenkofer mentions at Munich of a house in which there was no gas laid on or any gas pipe within twenty yards of the house, yet the people in the house were poisoned by an escape of gas. This escape from the main travelled through the earth and gained admission to the house. Nearer home there has occurred a case of a still more striking character, at Southgate, Colney Hatch, where one or two small houses were completely wrecked in November by an explosion of gas. This gas was not laid on to the houses at all, the main passed through the street, the houses stood back from the street some distance; the main was cracked, the gas travelled through the soil, gained admission to the houses, it smelt for several days, and finally exploded one evening on a lamp being lighted, and completely wrecked the buildings. Here, then, is striking evidence of gas passing through the soil. What does this teach? It teaches that the air of the soil should be as far as possible prevented from being polluted. If the soil is polluted by a leaky drain pipe we have that communicated to the soil which, if it gains admission to the house, may lead to disastrous results, the break out of typhoid fever, and those diseases which are always traceable to contaminated air and water, which are familiar to every one. It is therefore highly important that this matter should have attention called to it. It is not at all an unusual thing in the neighbourhood of London for speculating builders to build houses and make drain pipes which have no outlet; they put drain-pipes below the house, which lead nowhere; the consequence is, that after the house is let the unfortunate tenant is perfectly ignorant of the fact that everything which escapes by the drain-pipes is lodged in the earth. Of course, after a time, this cannot fail to be found out, but frequently it is too late.

THE BIRMINGHAM SCIENTIFIC COLLEGE.

ON Tuesday last the foundation stone of the Scientific College at Birmingham was laid by Sir Josiah Mason, at whose sole cost the buildings will be erected.

The buildings, which have been designed by Mr. J. A. Cossins, of Birmingham, when completed, will occupy a site containing rather more than one acre, with a S.E. frontage of 149 feet to Edmund Street, and extending through to Great Charles Street, with a frontage of 127 feet; of this area about 2,250 square yards will be occupied by the first portion of the college now commenced. The whole of the buildings are three storeys in height, besides a lofty basement floor, and are arranged round two open courts. The front block in Edmund Street, and the block parallel to it at the back of the courts, being about 36 feet wide; and the two ranges of buildings on the outer sides of the courts, connecting the front and back blocks, each about 25 feet wide. The courts are separated from each other by the main corridors of each floor, which pass at right angles to the front entirely through the buildings, dividing them in all but the upper floor into two nearly equal parts.

The basement storey extends under the whole of the buildings, is 12 feet high, and vaulted entirely over with brick. It contains large kitchen and dining-rooms for the occasional use of students, rooms for medico-legal investigations, furnace-rooms for metallurgy, boiler house, servants' sitting-room, stores and cellars, all well lighted and ventilated.

The ground floor is entered from Edmund Street by a very large and lofty gateway, with deeply recessed shafted jambs and moulded arch, leading to the main corridor, which will be paved with Val de Travers asphalt, and serve also for a carriage-way, to eventually continue through into Great Charles Street; this corridor will be groined in red brick, with stone ribs springing from angle-shafts and corbels. Near the entrance, on the right-hand side, are the rooms for the residence of the janitor, and on each side, at the back of the front range, an archway opens to a corridor extending right and left—that on the left leading to the clerks' and secretaries' offices and committee room, that on the right to a series of class rooms; both corridors terminate at staircases placed in the angles of the courts where the main building joins the side ranges of buildings. Further down the central entrance the main staircase is reached, opening to the corridor on the right-hand side by an arcade of three arches on granite columns; opposite this are lavatories and cloak rooms. The staircase communicates with every floor, opening into the corridors in the same way, and the arrangement of lavatories, &c., is also repeated. Farther down the corridor passes into the back block, and on each side lead, the one to a library and reading-room, 44 feet by 22 feet, and the other to a large workshop, model room, and class rooms.

The next or first-floor is 22 feet in height, and may be called the lecture-room floor, as it contains three large laboratories, two of which, 67 feet by 32 feet, and 44 feet by 32 feet respectively, are placed in the back building, and the third for chemistry, in the central part of the front range; these are entered directly from the main corridor, but communicate also with the side staircases, which have been so placed as to enable the lecture-rooms to be reached if required by separate staircases, to avoid the possible collision of the several audiences. In connection with each lecture-room are the necessary preparation rooms, rooms for collections, chemicals, models, apparatus, and private rooms for professors and assistants. The large lecture-rooms will be very handsome apartments, lighted on each side by large and lofty windows, and vaulted with brick arches carried by wrought-iron girders. The great height of this floor has enabled the architect to provide a mezzanine floor over the smaller rooms; this is reached by the side staircases, and contains on one side rooms for servants, and on the other store-rooms for glass vessels, &c.

The whole of the second-floor is devoted to chemistry, there being two laboratories, one 67 feet by 32 feet, for beginners, and the other 44 feet by 32 feet, for advanced students, both 22 feet high; these are placed over the lecture-rooms. In the back building there is also a laboratory for the private use of the professors, 34 feet by 33 feet; this is connected with a small lecture-room for special lectures. In this room is provided a large bay window for microscopic investigation. Adjoining each laboratory are rooms for fusions, for weighing, for important operations on a large scale, &c. There are also on this floor smaller laboratories for volumetric gas and spectral analysis. From this floor a staircase leads to a room, 49 feet by 33 feet, formed principally in the roof of the central front block, to be used for collections of specimens in connection with the chemical department.

The several laboratories will be very plentifully provided with small and large ventilated niches for the removal of injurious vapours and gases, and with every appliance and fitting of the most approved kind for the various operations to be carried on. Every student will have his own working table, for which very ample space has been provided. Each table will be fitted up with cupboards and drawers, and supplied with gas, and cold and hot water. The stores in the basement will be conveyed to the upper floors by means of lifts, placed adjoining the laboratories and central corridor. To ensure a successful arrangement of this important department, the principal laboratories on the Continent have been visited by the architect, and from many others he has obtained plans and particulars, and a quantity of valuable information from eminent foreign professors; it is, therefore, hoped that every improvement and excellence that the circumstances and site will admit of will be found in the institution.

In a central position is a large chimney stack with a divided flue, one side of which will take the smoke from the boiler, and the other will be used to assist in ventilating the lecture-rooms. The mode of warming the buildings has not yet been decided upon; it is probable that the same system will not be adopted in every department.

The whole of the buildings will be of brick, with stone freely used in cornices, jambs, arches, &c. The style of architecture will be Gothic of an early character. The principal front in Edmund Street will rise from a lofty stone plinth, and be three storeys in height, with an attic storey over the centre block; this will recede from the line of front sufficiently to allow of a passage guarded by a pierced parapet. The elevation is divided laterally into five parts, the centre block being about 70 feet in height to the eaves of the attic storey, and covered by a hipped roof. On the ground-floor, in the centre, is the large carriage-way, and on each side a pair of windows, lighting the janitors' rooms and clerks' offices. Over the gateway is a projecting stone balcony, and on the next floor are the six large and lofty pointed windows of the chemical lecture-room; from this floor rises a large bay window resting on a series of corbels, and above it, dividing the attic storey, a small gable terminating with a turreted niche, the finial of which will be about 100 feet from the pavement. At the extreme ends of the front are two gables, 82 feet in height, with three windows grouped together on each floor. The intermediate portions between the gables and centre block are lower, being about 50 feet to the eaves. These have three windows on each storey; the upper range are square-headed. With these exceptions, all the windows have pointed moulded arches, with shafted jambs, the heads of some being filled in with simple tracery. The roofs are all of lofty pitch, broken by dormer windows, and will be covered with red tiles.

ART AND MANUFACTURES.

THE prizes to the students of the Worcester School of Art were distributed on the 16th inst. by Lord Dudley. Mr. Rupert Kettle, speaking on the occasion, said that no doubt the application of art to manufacture was very profitable in a pecuniary sense, and he hoped that would long continue, but he thought that higher considerations than those of pecuniary profit should influence such a community as that of Worcester. The cultivation of art for the purpose of improving our own appreciation of that which is beautiful and good would bring more lasting profit, and, upon the whole, that profit would be more extensively used than if we confined our attention to the more material advantages that arise from a cultivation of taste. He had always found, when addressing those who are engaged in the application of art to manufacture, this argument put forward by them—"We have to make the goods we produce to suit the taste of our customers. We find, with regard to the ordinary articles of every-day life, there still lingers a love for that which is pleasing, startling, and what it is the fashion to call sensational. Unless we can strike the eye, and suit what might be called the vulgar taste of our customers, we cannot sell the goods we produce." He (Mr. Kettle) expected the community of Worcester to set an example in that which is pure in taste, elegant in form, and moderate in colour. It occurred to him that he ought to avail himself of the opportunity of saying that the cultivation of the general taste of a city like Worcester would do a great deal to increase what was called the home trade for a superior class of home manufacture, and give great encouragement to our artisans to produce works of artistic skill. He did not regard Worcester as a mere manufacturing town. It possessed porcelain works which were an honour not only to the city but to the nation—it was the centre of the agricultural and other interests of the district, a place with a salubrious climate, and good society, a town where people came to live and enjoy life, where those who were assumed to belong to the better class resorted to for residence. Therefore, Worcester was able greatly to encourage the best class of art manufacture. He knew of no better means of doing this than the support of the institution in which they were now assembled; and he congratulated them upon having the Earl of Dudley as their neighbour, the munificent patron of art who occupied the position of president.

ITALIAN ART NEWS.

A CORRESPONDENT of the *Daily News*, writing from Rome on the 26th inst., says that the celebrated Florentine bronze founder, Professor Cav. Clementi Papi, has within the last few days died in Florence from a stroke of apoplexy. He was born in Rome, but went to live in Florence with his parents before he was ten years of age. He received the education of a sculptor in the Florentine Academy, but although as a lad he showed very considerable talent, and carried off several prizes in the Academical competitions, he did not care to pursue sculpture as a profession. He early devoted his attention to the art of bronze founding, once so successfully practised in Tuscany, and brought to high perfection by the artists of the Florentine school, especially Lorenzo Ghiberti, Michael Angelo, John of Bologna, and Benvenuto Cellini. After years of patient and laborious study his application resulted in his successfully casting in bronze, after the manner of the old masters, that is to say, life-sized or colossal statues in one entire piece, thus rediscovering a lost art. The modern practice is to cast statues in pieces, which are afterwards fitted together, and worked over and finished by chiselling and filing. The castings executed by Professor Papi were in one entire piece, and so perfect as not to require the finish of chisel or file, but showed to perfection each stroke of the modelling stick just as the sculptor had left it on his clay model. Benvenuto Cellini cast his group of *Pegasus and Medusa* in two portions, but Professor Papi outdid the famous metal-worker by casting the same group in one. Benvenuto ascribed his success in the operation to the fearful oaths he swore; Papi before running the metal into the mould made his assistants kneel round the group and pray earnestly for an hour for the success of the casting. A replica of this work is in England. Amongst the more important works cast by Papi were—The *Caveau Monument* at Milan, the *Equestrian Statue of the Duke of Genoa*, a replica of Michael Angelo's *David*, and a colossal statue of *The Falconer*, modelled by an Englishman, but bought and presented to the New York Central Park by an American gentleman. Besides the above colossal statues, among other fine works may be mentioned the *Cain and Abel* of Dupré. Papi's amiable and affectionate character secured him a large circle of friends of various nationalities, by whom his death will be deeply regretted, as well as by the sculptors whose works he was in the habit of casting, and to whom his loss is irreparable, since Professor Papi leaves no successor in his art. It is feared also that many important secrets in bronze founding have perished with him. He had been in the habit of never confiding to any one the precise methods which he adopted in his operations. His funeral took place at the church of the well-known confraternity of the *Misericordia*, in the presence of the professors of the Royal Academy of Florence and of the Polytechnic Institution, also of a numerous assembly of artists. The Syndic of Florence was a pall-bearer. The deceased was Honorary Professor of the Florentine Academy, and a Knight of the Order of St. Maurice and St. Lazarus.

Many distinguished Florentine sculptors have recently been to Pisa to examine the precious statue of St. John, which stands in the palace of Count Lodovico Rosselmini-Gualandini. This work, which by common tradition was ascribed to Donatello, has just been unanimously pronounced by them to be the work of Michel Angelo Buonarrotti. For some time past the archives—which had been kept in Rome, till 1873, in the Palazzo Mignanelli—have been undergoing classification in the Benedictine Convent in the Campo Marzo. It was found that there was a vast amount of worthless matter among them, but everything has been carefully examined, which has led to the discovery of an inventory of all the effects possessed by Michael Angelo in his house and studio in Rome, which inventory was ordered by the Pope to be taken on the night after the sculptor died. In the same convent, while alterations were being made, several figures in

fresco were found underneath the whitewash. They are in a good state of preservation, and have been transferred from the wall to canvas with a view to future exhibition. No definite conclusion has yet been arrived at as to who was the painter, though it seems probable that they are by Spagnoletto.

Now that the new *Venus*, which was found on Christmas Eve, has been placed on a pedestal in the gallery of the Capitoline Museum, it is easier to arrive at a sound conclusion as to her rank as a statue, than when lying on her back in the Tabularium. The statue is only four feet eight in height, and represents a young girl of the Roman type, of not more than thirteen years old. The fragment of the hand on the top of the head is not tying up the hair as has been stated, but is simply resting there. The modelling is extremely fine and beautiful, but yet it lacks those qualities which would stamp the statue as a work of the highest Greek art. In its nature has been closely adhered to rather than idealised. As compared with the celebrated Capitoline *Venus* in the same museum, it is far behind in point of merit, neither can it be ranked as a work of art with the unrivalled *Venus de Medici* at Florence. Nevertheless, it is a most lovely specimen of the sculpture executed by Greek artists in Rome. The silver statue which was reported to have been found in the excavations at the *Esquiline* is reduced to the legs and base of a small male figure not more than twelve inches high. Many bronze utensils have been unearthed lately all of exquisite shape, though of course very much worn by the action of time.

Two works of sculpture are being sent from Rome for exhibition in the Royal Academy, which from their importance will not fail to attract attention in the forthcoming exhibition. They are both by English artists. One is a life-size marble statue of *The Falconer*, by Mr. George Simonds. The other, by Mr. Charles Summers, is a group representing *Hypermetra* urging her husband *Lyncæus* to flee.

AMERICAN ARCHITECTURAL SKETCH-BOOK.

MR. T. S. PERRY, writing from Boston to the *Academy*, says:—A publication which might be of interest to some of your readers is the "Architectural Sketch-Book," of which a number comes out every month. It is edited by the members of the Portfolio Club, an association of the architects of this city, who take such drawings of the members as it may seem desirable to make public, and have them reproduced by the heliotype process and published, to the number of four or more every month, with some brief explanatory letterpress. It is now eighteen months that this plan has been in operation, and the collected numbers bear witness to a great deal of interesting work. The fire of little more than two years ago naturally made a great deal of rebuilding necessary, and there are drawings of some of the large warehouses which have replaced those then destroyed. Besides these, there are some interesting designs of churches. Perhaps the most striking is the interior perspective and section of the new Trinity Church, which, in another part of the city, succeeds the one burned in November 1872. There are others, too, that may be examined with interest. There is a view of the Museum of Fine Arts, now rising in this city, which will be a noticeable building. There is also a large number of sketches of country-houses, for the most part built of wood, of town-halls, railway-stations, and of some of the unaccountably large buildings required by insurance companies. On the whole, a commendable show is made, and very fair examples are given of some of the good work that has recently been done in this city. In no part of the world has what may be called "the master-workman fallacy" held firmer sway than in this country, and consequently, so far as architecture is concerned, we have been for the most part in the dark ages. Gradually the public taste is rising to the ability to distinguish between work done as it were by machinery and what is really good, and the credit is mainly due to the new and more serious efforts of our architects. In the number for this month there are drawings of some of the work of our grandfathers who did not study in London and Paris—namely, two spires which their descendants grow fond of by association, and praise in tacit comparison with absolute ugliness. I see no reason why the "Sketch-Book" should not be of interest to architects in England as well as here. Teachers of architecture will find some of the work done by students of the Institute of Technology as a part of their examination for a degree. Local pride should not forbid my mentioning the "New York Sketch-Book," a similar publication, more recently founded. Perhaps it is provincialism, but I prefer the one of which I have spoken more at length.

COVENT GARDEN MARKET.

DURING the last two or three months Messrs. Cubitt & Co. have been engaged in the construction of a new roof over the large open area on the south side of Covent Garden Market, which has hitherto been uncovered, and was inconvenient, not only to the dealers, but also to the public. The new roof, which has been erected at the expense of the Duke of Bedford, has just been completed. It extends the entire length of this portion of the market, to the west side, opposite St. Paul's Church, and is about 220 feet long by 60 feet wide, with an extreme height from the market level of more than 60 feet. The roof is curved in section, and crosses the area of the market in a single span of 80 feet. There is a lantern light in the centre, carried the entire length, and rising to a height of 12 feet. The span is carried on iron ribs, springing from columns on each side. A framework of iron, 10 feet in height, above the market walls, in divisions 4 feet in width, with arched headings, is also carried up above the columns, the whole of this space being left open for ventilation purposes, and the roof laps over this, on each side, to the extent of 4 feet. The sides of the lantern light are also in open divisions, so as to add to the ventilation. Ample light has been secured. About one-third the width on either side is covered in externally with slates, and faced on the inside with timber, the covering of the remainder being of glass. The interior is painted in effective colours. Before commencing the roof Messrs. Cubitt & Co. constructed a travelling stage on the spot, with the aid of which the structure has been completed without at all interfering with the business of the market.

THE DUKE OF ABERCORN ON ART STUDIES.

WHEN distributing the prizes last week to the students of the Royal Art Schools Dublin Society, the Lord Lieutenant of Ireland said:—"Real artistic merit is certain to assert itself, and if it does not receive at once the advantage of monetary profit, it leads to future success and honour. Let me now explain my meaning. I think that owing to the encouragement given by an over-rich, and, perhaps, not over-skilled public, a tendency has arisen in the popular school of English art to run into a mannered realism of late years—namely, an exact, accurate, and perhaps exaggerated copy of nature, of the fibres of trees or shrubs, of the lines and texture of bark, of the tessellated foliage of plants, of the gaudy colouring of flowers, or a cold and literal transcript of natural landscape. This species of high art, carried into what I may call a *tableau de jardin*, has also been carried into sacred subjects; and so we find literally figures of ordinary and every-day men and women substituted for the halo of poetic idealism with which such subjects have formerly been treated by the great masters. This may be profitable art, but it is not high art. Therefore, I would say to you, students, persevere to the utmost of your power in the study of nature, and in the careful practice in the school of design of everything pertaining to nature as affecting art, for without that your artistic genius will be of no avail. I ask you to remember that it is but a means to an end, and that you should look upon it as a means which will enable you to give thought and utterance to the higher conceptions of art, which alone will make true artists. Now, I wish to illustrate my meaning by reference to a work which made a great sensation last year, and which, no doubt, has been viewed with extreme admiration by the lady students—I mean Miss Thompson's picture of "The Roll Call." In it you will see a very great degree of realistic power carried out; it presents a minute and accurate detail of a military company. The study is not merely realistic—the genius of the artist has invented the whole group with a highly artistic conception of peculiar interest, every soldier almost having his own individual history, and a whole world of pathos and interest is opened out to a remarkable degree. This is exactly the point to which I wish to direct your attention—not to confine yourself to the copying or imitation even of the best examples, otherwise than as a means of enabling you to carry out the higher conceptions of art. I think it is a proof of the highly-artistic character inherent in the Irish nation that the ideal and imaginative is more natural to them than mere realism, and, therefore, I say that a judicious union of the two may be most successfully cultivated. There is no doubt that Irish students who have only an art training in Ireland have not altogether the advantage of the same modern exemplars that others enjoy who have opportunities which are more easy of access; but, taking those difficulties into consideration, I think we have every reason to be highly gratified with the great advance made by Irish art which was observable in the Royal Hibernian Academy, which I had the pleasure of visiting on Monday last, as a proof of the success that art training has had in Ireland. I will not detain you further than to say that if any means can be found or any way devised by which art culture can be extended to Ireland, you will always find me most anxious and most willing to give it all the assistance in my power."

According to the report read at the meeting by Mr. Lyne, the schools have been very successful in the national competition, for one-sixteenth of the entire number of national awards were won by the students. The number of national awards made in 1874 was—Dublin, 12; Edinburgh, 11; Manchester, 10; Birmingham, 9; Westminster, 8; Belfast, 6; Sheffield, 6; Glasgow, 4; Cork, 1.

THE SOCIETY FOR THE PROMOTION OF SCIENTIFIC INDUSTRY.

THE exhibition, under the auspices of this Society, "for the purpose of encouraging the development of mechanical appliances for the 'economy of labour,'" will be opened on May 1. The Council of the Society, in a circular which they have issued, say:—

"In so large a field there must necessarily be a selection as to the departments which are to be specially represented. The Council have been guided in their decision by the recent great changes which have taken place in the labour market in connection with the metal trades, testifying that in a highly prosperous condition of the country there is scarcely sufficient skilled labour to supply the demand for the working of metals, wood, stone, &c. Great as have been the improvements of late years in engineers' and mechanics' tools, steam hammers and forging apparatus, hydraulic and steam cranes, boiler makers' machines, wood-working machinery, and stone dressing and cutting machines, there is still much work performed by hand that mechanical appliances may be profitably devoted to; and in this department of industry it is hoped the Society's exhibition next year may lead to the stimulating of inventive power in the economising of valuable skilled labour now employed in comparatively routine work. Following out the same principle, the Council of the Society have selected domestic appliances as giving an opportunity for the developing of mechanism in the households of all classes of society, where menial work is becoming continually more costly and difficult to obtain. In this department there is ample scope for the inventive faculty to display itself, to the great advantage of our social and home comforts; and as household sanitary arrangements are included in the exhibits, it may be expected that public health would benefit by encouraging the application of mechanical contrivances which shall help to purify the air and water we require, and get rid of impurities in the most effectual manner. A novel feature which the Council have decided to introduce into their exhibition is that of scientific toys, mechanical and chemical, for the instruction and employment of children of all classes."

The entries for the exhibition closed on the 1st instant, and it is said the intending exhibitors are over 200 in number, and include some of the most important engineering and manufacturing firms. Rock-drills and stone-boring machines will be an important feature in the exhibition, and these, in common with many other kinds of machinery, will be exhibited

at work. It is expected that at least 84 large machines will be working in the exhibition hall.

The actual number of entries approaches 1,000, and the demands for space have so considerably exceeded the anticipations of the Council that the dimensions of the hall have been extended. The total area of the building and its accessories will be upwards of 50,000 square feet. In order that the clearly-defined object of the exhibition may not be frustrated, each entry has been scrutinised before being accepted, and all machines not deemed suitable, or which do not come within the description of "appliances for the economy of labour," have been rejected.

The building—which is, as already stated, in course of construction—will be of wood, on the same principle but with a roof double the span of last year's. The Salford Town Council, having found that they had legally no power to charge for admission to any portion of Peel Park, were compelled this year to withhold permission for holding the exhibition there. Upon this, the President of the Society, the Earl of Derby, offered the site which has been chosen on the Cheetham Hill Road—at its junction with Queen's Road—free of charge. The building is being erected by the Union Land and Building Company.



The Royal Gold Medal and the Royal Institute of British Architects.

Sir,—In reference to Mr. Robins' letter, anyone who knows how popular the Association is with the younger members of the profession would have small hopes of the class of students at the Institute becoming an "element of strength and vital interest" in that body.

The idea of joining the Association, almost as it stands, on to the Institute, as a large and energetic students' class, generally finds disfavour in the minds of members of the Association; but what they need less by such an amalgamation, except a name, is more than has ever been proved. Such an infusion of new blood should be a source of strength to the Institute, if the example of the Civil Engineers, quoted by Mr. Robins, were followed, and the students had the prospect of a vote on becoming Associates.

Your obedient servant,
EDWARD J. TAYLOR.

LEGAL.

Ipswich County Court.

BURMANWORTH v. KING.—Breachmen's Charges.

In this case, Mr. James Butterworth, architect, of Ipswich, sought to recover £41. 15s. from Mr. Charles B. King, Civil Engineer, of Dowgate Hill, London, "for receiving instructions and preparing tracings from drawings of Felixstowe Railway, and making second set of tracings of Orwell Railway, stationery, &c."

The defendant did not appear, and his solicitor said that the last letter he had received from the defendant stated that he was too unwell to attend to business. On the last occasion he had applied for an adjournment, but now he had no certificate or any fresh instructions.

The promoters of the recently defunct Ipswich and Felixstowe Railway, being very pressed for time, through Mr. Kemp, an intimate friend of the defendant, instructed the plaintiff to prepare tracings of the plans of the railway route. The work was satisfactorily done, but when the plaintiff asked for payment his charges were disputed, though he had previously submitted them in writing to the defendant.

The plaintiff having confirmed the statements of his advocate, certain correspondence which had passed between plaintiff and the defendant was put in. Defendant, it appeared, had complained from the first of the charges, and promised to go into them with the plaintiff. In a letter to the latter he said his charges were preposterous. Even taking the plaintiff's charges at 5s. per hour, he failed to see how the claim was made out. Defendant, in a subsequent epistle, addressed plaintiff as follows:—"Sir, I am very much disgusted at your impudence in taking out a County Court summons against me for the amount of your preposterous claim. I shall defend it, and have instructed a solicitor in Ipswich to do so. The tracings are worth, at the outside, 5s. a sheet, and of these there are 34; if you like to accept the money I pay into Court well and good; if not, I shall expose your attempted extortion to your townspeople." In reply to this plaintiff wrote:—"Disputat between us seems to be the order of the day, for I was so disgusted after the effort I made to serve you that I placed all correspondence and facts relating to the matter in the hands of my solicitor to advise thereon." Appended was a statement of the charges, in which the time of "Alfred and William," plaintiff's assistants, was charged for at the rate of 5s. per hour, in all 15s. 10s.; and plaintiff's time at the rate of 10s. per hour for 15 hours.

His Honour said he thought the claim was rather strong. After defendant had agreed to pay 5s. an hour to the plaintiff, the latter had the conscience to charge 10s. per hour. His Honour remarked that he could not stand that.

PLAINTIFF stated that he agreed to 5s. for his pupils, but when the order was enlarged he had to work himself.

His Honour said he did not suppose that the plaintiff was much hurt. On the last occasion that the plaintiff brought a matter before the Court, although he felt bound to give judgment in his favour, he thought it was a most exorbitant charge. In the present action he would not allow a farthing more than 20s. 6s. The lawyers were fools to it.

Forthcoming Contracts.

Alterations to house in Mayfair for Mr. R. Laming. Mr. Aston Webb, architect. Tenders are immediately required.

Tenders are to be delivered on March 3 for new stations, platform, roofs, offices, &c., for the Brighton Railway Company. Quantities by Mr. C. H. Gough.

Tenders will be delivered on Monday, March 1, for new schools in Fitzroy Market, for the School Board of London.

New schools will immediately be erected in Bermondsey for the South-west division. Mr. Roberts, architect.

WORKS IN HAND.

Waltersville Road, Hornsey.

The drawing-room, dining-room, billiard-room, and hall of one of the mansions in the above road have just been artistically decorated by Messrs. Phillips & Son, of 10 Baker Street, Portman Square, W. The drawing-room has the ground of ceiling finished in white; the decorative detail is of an Italian character, in bright colourings and gold; the cornice and soffit have the relief work in white, with background blue. The walls are divided into a frieze 18 inches in depth, with panels, pilasters, and margins beneath. The frieze has a background of deep cinnamon, with the detail in white, outlined in various colours; the panels are a pale amber encircled with lines in blue and carise, with scroll ornamentation, rendered slightly in relief, striking from the lines encircling the panels, and forming decorative centres to panels. The pilasters, which are placed at each side of the mirrors, are artistically painted in relief in tempered hues of blue, red, and grey, and are enclosed similarly to panels. The woodwork is finished an ivory colour; the smaller panels treated in gold, and the panels ornamented with outline studies of birds, the entire surface being then enamelled. The dining-room is of an Etruscan character, the ceiling being divided into panels in lines of gold and greyish or neutral green upon a pale vellum ground; the cornice has its relief members picked out in white and part gilded, the backgrounds being in hues of brown and red. The walls have a deep frieze, the ground of which is a pale brown; the detail being in black, a deeper brown than ground, and gold. The walls beneath this are in a pale neutral green with a border above, skirting in same colourings as frieze, the space between border and frieze being struck out into panels in lines of gold and deeper green than wall colour. The woodwork is treated in black enamel to imitate ebony, and inlaid in ivory colour, with the smaller mouldings treated in gold. The billiard-room has the ceiling treated in panels in brown and red lines upon a vellum ground, the walls are in a neutral or silver grey and with varnished dado to the height of the sitters, the woodwork being a vellum hue, the character of the room being to attract the attention as little as possible, and to give the player a neutral background to the sight of his ball. The hall has an old English treatment, the ceiling white with decorative detail in a neutral grey. The walls are divided into three heights. The dado treated in a tempered red, with tile detail in grey, self colour darker than ground. The next height is an over-dado, consisting of a tile treatment in three parts, the centre on grey ground, the top and bottom in deep cinnamon ground with floral studies to each tile, in the flat rendered in browns and neutral green. The last height up to cornice being a plain flatted surface of silver grey, with pendentive border under cornice, and vertical border above over-dado. The woodwork is in a deep tone of grey, with mouldings in black and pale grey, and the panels are centred with outline studies in black and finished in enamel.

The Parish Church of St. Mary, Newington, Surrey.

Many of our readers are no doubt familiar with the awkward corner that used to exist at the commencement of the Kennington Road, where the angle occasioned by the peculiar position of the old church was the cause of many accidents, especially in the old days of coaching. Negotiations were a long time in progress with the Metropolitan Board of Works, with the result of their contributing a handsome sum to the carrying out of what will be a great metropolitan improvement. The old church will be pulled down, and the new one, to seat about 1,200 people, is in course of erection not far off, to supply its place. Mr. James Fowler, F.R.I.B.A., of Louth, is the architect. The total length of the building will be a little over 180 feet, by a width of 80, and a height of 70 feet to the ridge. The total height of the tower and spire will be 180 feet. The style is Early English. The dressings are of Bath stone supplied by Messrs. Pictor & Sons, and the general facing is of Kentish rag from Mr. Bensted. The internal arches to the nave and aisles will be carried out in Ancaster stone provided by Messrs. Cooper & Hampson. Ornamental encaustic tiles will be required for the nave and elsewhere, but the manufacturer is not yet selected. The red ridge tiling will be supplied by Mr. Cooper. The large western window will be 32 feet high by 18 feet wide, and the main entrance will have a doorway with elaborate carving by Mr. Ruddick. The total outlay may be estimated at 18,000*l*. Messrs. Downs & Co., of Union Street, Southwark, are the contractors. We may mention that it was originally intended to fit up the interior with stained deal, but that the contractors have agreed to substitute pitch-pine at their own expense as their contribution towards the structure.

Stables for Sir Richard Wallace, Sudborne Hall, Suffolk.

At Sir Richard Wallace's country seat a very extensive range of stabling is nearly complete, with all the latest improvements. There are seven separate stables, coach-houses, harness-rooms, cleaning and grooming rooms, &c., arranged in the form of a large quadrangle, and approached by a central archway; the whole of the fittings, properly so called, are of iron with iron-tongued wooden partitions. There are twenty-two stalls and four loose boxes; the division posts have been specially constructed of extra strength, and high open ventilating plates surmount the divisions, so that while feeding the horses cannot see each other, as stout wrought-iron plates are provided at the wall end; the divisions have wrought-iron bottom sills, so arranged that a board broken by an accidental kick may be readily removed, with which view the boards are fixed in narrow widths, and tongued together with wrought-iron tongues. The manger fittings are all enamelled, and fitted with a strong barrel iron front as a protection against crib-biting. The whole fitting is enclosed below by woodwork 1 foot 6 inches deep. The walls above the manger are lined with hexagonal tiles of an olive green tint, as it is a maxim in stable building that there should be no bright reflections. In the centre of the tile panel is a strong brass ring for racking the horse, and the upper edge is finished with a bold moulding corresponding with the style of the stall division. The four loose boxes are in one stable, and are so arranged that while each can be immediately inspected through a ventilating grating, the horses cannot see each other.

The frames of the doors are of forged wrought iron, and the hanging is quite a specialty of the firm who have carried out the whole of the fittings, the St. Pancras Iron Company, of St. Pancras Road, London. Although so simple that it may be opened by a single turn of the wrist, it is impossible for any horse, however artful, to move the fastening by his teeth or otherwise. All the harness fittings and racks are of iron, and protected from damp and moisture, while allowing free evaporation from the saddles, &c. The whole of these works have been carried out under the immediate supervision of Sir Richard Wallace himself and his surveyor, Mr. Ambler, and may be considered as models in their way for country stables for a gentleman's mansion.

General

The Judicial Committee of the Privy Council on Thursday affirmed the decision of the Court of Arches as to the legality of the Exeter reredos. The reredos is to remain.

An Exhibition has been opened in Edinburgh of the paintings which were not accepted by the Scottish Academy. In order to add to the interest, several works by eminent masters have been lent, including Gainsborough's *Mountain Maid*, as well as some foreign paintings.

Professor Sidney Colvin, Slade Professor of Fine Art in the University of Cambridge, has commenced a course of lectures at the Midland Institute, Birmingham, on "Siena—her State, her Citizens, and her Arts, being the lesson of an Italian republic."

Mr. Brook's statue of "Richard Baxter," which is to be placed in Kidderminster, will be completed in June.

Sir Charles Lyell, the eminent geologist, died on Monday last.

Dr. C. W. Siemens was on Monday presented by the Prince of Wales with the Albert medal of the Society of Arts, for his investigations in relation to heat and its application to arts and manufactures.

Mr McLean, of Westbank, has just given 6,400*l*. to the Philosophical Society, at Greenock, for the erection of a museum and lecture-hall,

Mr. W. J. Armitage, of Farnley, has offered to give from 5,000*l*. to 10,000*l*., as may be needed, for the erection of a British Workman Palace or Working Men's Club in Leeds.

The Westminster District Board of Works have approved of the general principle of the Artisans' Dwellings Bill, now before Parliament.

The Metropolitan Board of Works have, with a view to settle a dispute respecting a right of way over the Embankment Gardens claimed by the Marquis of Salisbury, agreed to a plan, in conjunction with the Duchy of Lancaster authorities, whereby a new road will be made near Waterloo Bridge for public purposes.

The War Department are about to convert one of the large workshops, now known as the Accoutrement Store, at Woolwich, into an armoury, at a cost of 15,000*l*., and it is expected that the extensive collection of arms in the Tower of London will be transferred to it. Several other new works for Woolwich are in contemplation, and some additional buildings at the Royal Arsenal are provided for in the new estimates.

The Treasury, owing to some misunderstanding, have struck out of the Parliamentary estimates the sum of 500*l*., which the First Commissioner of Works had agreed to give towards the restoration of St. Giles' Cathedral, Edinburgh.

A Committee of the Edinburgh Town Council are about to consider the feasibility of washing, periodically, the public statues by means of the fire-hose.

The large Timber Stores and saw mills belonging to Messrs. T. & C. Martin, Northwall, Dublin, have been burnt. The estimated loss is 50,000*l*.

The Expenditure on the restoration and erection of 219 churches in the Diocese of Hereford since 1840 has been 443,641*l*. This is exclusive of parsonages, and does not refer to cases where the outlay was under 500*l*. Of this amount 363,629 has been raised by voluntary subscriptions. The cathedral restoration cost 48,591*l*.

Trinity Chapel, Conduit Street, Regent Street, is about to be pulled down and a shop will be erected on the site. It was a proprietary chapel.

The Committee appointed by the French Minister des Beaux-Arts for the purpose of drawing up a complete catalogue of the art treasures of the country, will have finished its labours in Paris at the end of another month.

An Altar-tomb is to be erected in the chapel of Eton College as a memorial of the late Provost Hawtrey.

An Enquiry is to be held on Monday by one of the Medical Inspectors of the Local Government Board, in order to report upon the proposal to provide, by Act of Parliament, for the transfer to the Vestry of St. Pancras of the disused burial grounds of the parishes of St. Pancras and St. Giles, to be maintained by the Vestry for ever as an open space and memorial garden.

The Freemasons of Bristol contemplate bearing the cost of some portion of the work of restoring the cathedral of that city.

The Rebuilding of Warwick Castle is said to be completed. The cost is estimated at between 15,000*l*. and 20,000*l*.

The whole of the joiners' work in Mr. Thomas Holloway's Sanatorium has been entrusted to Mr. Lascelles, of Bunhill Row, E.C. The amount of the contract is upwards of 10,000*l*.

The Architect.

HOUSES BUILT TO FALL.



AMONGST other effects of the dismal severity of such a winter as the present we find rickety houses tottering to their fall. If statisticians are justified in telling us, as they certainly are, that a week's frost or fog costs the community just so much in human life both aged and young, so also may we say that a cold wet season finds out equally inevitably in building the decrepitude of the old and the misconstruction of the new. When, however, the old tenement goes to its fate, it may at least claim the credit of having served its purpose; but when it is a row of unfinished houses that

suddenly tumble to the ground the case is one in which it is difficult to discover any consolation at all, except it be the reflection, if happily the fact be so, that the coroner has not to be consulted.

Whether the Building Act of London fulfils its object is a question which is only too frequently forced upon the attention of both private individuals and public officials; and, if houses are found to fall down in spite of its regulations before their roofs are on, or very shortly after, here is one point at least upon which a little investigation might certainly be expected to have a wholesome effect.

The flimsy character of London speculation building has long been proverbial, and the character of the London speculation builder a by-word. The houses, it is said, are built as the razor was made, to sell; the builder has but one sweet object in view, to pocket the money and be off. This, however, is not fair. It may be the truth, but it is not the whole truth. The builder may be quite as black as he is painted, but it ought not to be forgotten that he is not the only figure that ought to be comprised in the charcoal sketch. There are in short two other figures at least equal in dark importance to himself—a ground landlord and an attorney. Some people would add a surveyor, but this official at the worst is seldom the positive enemy of the public. The amiable part played by the landlord is, generally speaking, nothing more than to squeeze out of somebody the highest ground rent that he can get; a thing to the utmost degree commendable in theory from the landlord's point of view, but in many cases savouring so much of over sharpness in practice as to constitute the basis upon which the whole fabric of future misadventure is founded. Of the attorney, on the other hand, when he is one of the right sort, it is more difficult to speak. His supreme and most interesting function is to find the money. Where he gets it nobody cares; the only question that is asked is what he is to charge for it, and this is generally answered by opening the mouth very wide. The reckoning of the emoluments of this guileless professional is by no means a simple equation. All that can be explained to ordinary intelligence is that he is in a manner the uncle of everybody concerned. But this is not enough—he procures everything for everybody, and introduces everybody to everything. He finds the money for the borrower, and the mortgage for the lender; he finds the builder for the land, and the land for the builder; he finds the surveyor for the job, and the job for the surveyor; and philosophy surmises that were it not occasionally for a mere accident he could not find anything at all for anybody, or anybody for anything—the accident being that he holds the position of trustee to some such person as a widow, whose money he is anxious should be made the most of, turning it over and over therefore in this way as quickly and consequently as frequently as he can. At any rate the poor builder pays him for all, which is saying as much as is necessary for the present.

Now if a new street, such as we can see any day springing into somewhat squalid existence in the suburbs, has to be created for the public uses upon such a scheme as this, it must be easy enough to understand with regard to the standing functionary called a speculation builder, not only that he does not grow rich, but that he has quite enough to do to pay the wages and the attorney in the first place, to meet his acceptances to the brick and timber merchants in the second (who of course charge for accommodation), and thirdly to scrape together by the most painful economy bread and cheese for himself. Like the interesting cab horse of Mr. PICKWICK's acquaintance, keep him in the shafts and he jogs on for ever, but take him out and he falls to rise no more.

Now in what way is it that so perplexed a financier contrives to scrape together enough to live upon? There are three principles of control that compel substantiality in his work; first, he must build well enough for a speedy sale; secondly, he must build well enough for the security of the loan in the meantime; thirdly, he must satisfy the regulations of the law. Beyond these considerations he has nothing to fear, all further virtue is in a manner supererogatory. If he can but get a purchaser for his house before the estimable lady whose money has built it experiences any anxiety about its safety, if he can but pay off all claims before anybody gets tired of waiting, if he can secure the certificate of the district surveyor (which is the

receipt for his fee) before any decrepitude appears in the walls, and if he can pay his butcher and baker, tailor and draper, their modest accounts, then the sooner the house goes to wreck the more does the whole proceeding seem to be in accord with the fitness of things; and every day it continues to occupy its little spot of earth to the advantage of the purchaser is in a certain sense so much abstracted from his pocket, or rather from the pocket of the managing attorney, who, taking all the risk upon himself, is naturally entitled to receive whatever advantage happens to be going.

How hard it is for a mere Act of Parliament, couched in the language of abstractions, to deal with such a condition of things in sordid practice, need scarcely be said; and the only wonder is, to those who are behind the scenes, why there should be so little as there seems to be in the way of disaster. For instance the law ordains, in the spirit of it, that the builder shall use reasonably good bricks, and reasonably good mortar, and that he shall put his work solidly together; and it is on these conditions that he is permitted to make a wall which is 80 feet long and 25 feet high of the moderate thickness of 8½ inches. The extreme lenity of such a rule can only be accounted for on the supposition that the district surveyor, who is responsible for the bones of the public in these matters, is armed with sufficient authority to prevent the use of bad bricks, bad mortar, and bad workmanship; for who would dream of building a 9-inch wall, 30 feet long and 25 feet high otherwise than well if it were intended to stand at all? But when the outraged speculation builder, instigated and defended by the still more deeply outraged attorney, forces the public officer to appeal to the police magistrate, and that astute authority is entreated to protect the interests of property and trade against the exactions of a pragmatical jack in office, suffice it to say that it is vain to attempt to satisfy the bench either that one brick is not as good as another, or that garden mould and chalk do not make capital mortar, or that such a phrase as "solidly put together" means anything more than set up anyhow on end. "I do not profess to understand building," is the serene observation of the judge, "but I can read an Act of Parliament; and, if the language is not clear, it is not my fault, and it is not the defendant's."

The fall now and then of a house or two while yet only half built must be put down therefore as an essential incident of the British Constitution, part of the liberty of the subject. Fortunately there is in building a mysterious principle, conversationally called "stiction," which protects from falling a great many houses that otherwise ought assuredly to fall with all possible promptitude; and indeed were it not for this it is difficult to say where certain districts of London would be in very wet weather, except perhaps half way down the sewers. But at any rate, when so many thousands of houses, of such rickety construction as we know them to be, are seen to stand as firmly as they do for twenty, forty, and even sixty years, the inquiry of chief interest which is left to us is to speculate upon the possibility of entire neighbourhoods, built at one time, tumbling into wreck together—a hundred acres or so of houses, incidentally associated together in their birth, being in their death not divided. No doubt there are already many instances in which the pestilential "rookeries" that the Artizan's Dwellings Bill of Mr. Cross would sweep away are simply so many once snug little building estates which the speculation builders of less than a hundred years ago erected for the profit of astute attorneys with shuff bricks, garden mould and chalk, and free and easy workmanship, and which have been indebted to "stiction" and nothing else any time within living memory for such a semblance of stability as they still possess. A great deal of this may no doubt be beyond the reach of preventive authority, but one thing at least we may venture to suggest. The police magistrates of the Metropolis are said to hold periodical private meetings for the excellent purpose of agreeing amongst themselves upon principles of uniform administration, and it might not be amiss if on some occasion of the sort they were to take into most serious consideration the circumstance of houses being given to tumbling down because of the supposed impossibility of interpreting on the bench the following language in the Building Act, which plain people nevertheless think intelligible enough:—"Every wall constructed of brick, stone, or other similar substances shall be properly bonded and solidly put together with mortar or cement."

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

Henry VIII.—(Continued.)

COSTUME in this play reaches the utmost limit of costly magnificence. The action is the movement of a pageant, the costume is the dress of a spectacle. In the text itself we are told that at Andren every Frenchman was "all clinquant, all in gold," that every Englishman "show'd like a mine," that the "pages were as cherubins, all gilt." The cost of "these fierce vanities," as BUCKINGHAM calls them, fell so heavily on the gentlemen who took part in those days' doings that many "broke their backs with laying manors on them." The third Scene of the first Act is devoted to Paris fashions, and in it we find mentioned not only the "fit or two o' the face" and the mincing walk of the travelled gallants, but such articles as the tall stocking, short blistered breeches, and those

remnants of fool and feather that they got in France. The particular point, then, to remember in clothing the characters in Henry VIII. is that the play opens immediately after the great meeting at the Field of the Cloth of Gold, and that London copied, with her usual exaggeration, the Parisian mode. Authorities for the period we have now reached are so numerous, so easily attainable, and so near to SHAKSPERE's own time, that error in costume is less to be excused than a failure in scenery. Monumental and decorative sculpture, easel pictures, including life-size portraits, tapestry, drawings, MSS., and printed books furnish us with a rich store of material. Of contemporary portraits we have a large number; there are some in the National Portrait Gallery, and the KING's picture is to be found in more than one collection, but that in Warwick Castle is the best I have seen. HOLBEIN's *Wolsey* everybody knows is in Christ Church, Oxford; and in CAVENDISH's "Life of Wolsey" and LODGE's "Portraits" we have engravings taken from pictures by HOLBEIN, TITIAN, and others of nearly every person of note in the play. The picture at Windsor Castle representing the meeting of the Kings of England and France on the Field of the Cloth of Gold may be compared with the sculpture at Rouen which exhibits the same event, and shows the full force of the expression "fool and feather," for the plume on the head of the horse ridden by FRANCIS is not far short of *three feet* in height! Towards the end of the period of the action some important sumptuary laws were passed, and from this enactment and inventories we gather that the dress of 1521-33 included—

Square-toed shoes of alashed velvet.

Trunks or breeches of silk—black silk and gold, purple silk and Venice gold woven net-wise, and white silk and gold.

Stocks or stockings of velvet, cloth, and satin.

Doublets of cloth, velvet, damask, cloth of gold, cloth of silver, velvet—cut in meandering patterns on the gold or silver cloth—and velvet covered with embroidery of gold and pearls, and buttons of diamonds, rubies, &c.

Sleeves wide, detached, and fastened to the jacket or doublet—like the breeches or trunk hose were—with points or laces and tags. They were generally of satin when the doublet was of velvet, and usually of the same colour (worn by both sexes).*

Waistcoats with sleeves tightly fitting, made of cloth of silver, quilted, and "tuffed out with fine camerie" (worn by both sexes).

Jackets or jerkins worn over the doublet, usually of velvet.

Coats of velvet, damask, or cloth, with bases or skirts, ribbed and quilted, and loose, hanging coats, like short cloaks, with broad collars and trimmings of fur, and large, hanging sleeves.

Gowns of velvet, satin, damask, and cloth, trimmed with fur of the black genet, the sable, and lamb's wool (worn by both sexes). After 1533 black genet was only worn by the blood royal.

Habit-shirts or partlets, with or without sleeves (worn by ladies only), were made of fine cambric, often richly embroidered with gold, or of lawn with network of gold woven therein.

Kirtles or petticoats were made of cloth of gold, brocade, satin, velvet, damask, cloth, and worsted. Seven yards is quoted as the quantity necessary for a QUEEN's kirtle.

Caps or coifs were of velvet, gold cloth, &c., sometimes shaped like the flat hood familiar to us in the portraits of the unfortunate QUEEN OF SCOTS, and sometimes three-cornered, the peaks or corners projecting three or four inches beyond the head. The humbler women folk wore white kerchiefs of linen or holland.

Of the different shapes of the articles above enumerated, it is almost impossible to give anything like an adequate idea without numerous drawings. There are, however, certain points which can easily be borne in mind; thus, for example, the trunk sleeves were nearly always opened, cut or slit up and fastened together with laces and tags or buttons in such a manner as to reveal the lining, which latter was sometimes of very precious material. Here are a few examples of sleeves—

"Long sleeves all cut and lyned with cloth of gold."

"Purple satin sleeves, embroidered all over with Venice gold, with diamond and gold buttons set thereon."

"A pair of trunk sleeves of redde cloth of gold, with cut workes, having twelve pair of agletes of gold."

"A pair of French sleeves of green velvet, richly embroidered with flowers of damask gold, pirl of morisco work, with knops of Venice gold, cordian raised, either sleeve having six small buttons of gold, and in every button a pearl, and the branches of the flowers set with pearles."

"A pair of sleeves, ruffed at the hande with strawberry leaves and flowers of golde, embroidered with black silke."

"One pair of linen sleeves, paned with gold over the arm, quilted with black silk, and wrought with flowers between the panes and at the hands."

"One pair of sleeves of purple gold tissue damask wire, each sleeve tied with aglets of gold."

"One pair of crimson satin sleeves, four buttons on each sleeve, and in every button nine pearles."

Cutting or slashing was by no means confined to the sleeve; it pervades the whole costume down to the shoes, and the material, instead of being made as formerly with a few bold slashes, is now

found to be slivered and snipped into a multitude of little cuts, making the fabric almost as open as a network of shreds. Besides this cutting and puffing, other modes of ornamentation were adopted, such as ribbing, quilting, and striping. A full-skirted doublet ribbed appears to have been a kind of dress very much in favour. Of special dresses we must not forget that the Duke of BUCKINGHAM had in his wardrobe a white doublet and hose cut upon cloth of gold, embroidered and furnished with clasps and tags of gold. The KING's dress was often so much covered with embroidery of gold that the material forming the ground showed but little. He was as fond of change in his costume as in other things, and his wardrobe contained what even nowadays a tailor might be justified in describing as an extensive assortment. ANNE BOLEYN wore at her coronation a surcoat and robe of purple velvet furred with ermine; her hair hung down from under a coif surrounded by a coronal of jewels; the dais or canopy over her was carried by the Barons of the Cinque Ports, dressed in crimson; the LORD-CHANCELLOR wore scarlet bordered with fur; the dukes were clad in crimson velvet trimmed with ermine; SUFFOLK's doublet and short overcoat or cloak were thick with pearls, and his gown was of crimson velvet embroidered with gold. The feather worn in the hat and cap was often jewelled up the quill, and a large jewel or medallion usually covered the base of it. HENRY wore a medallion or brooch in his hat, having the image of St. GEORGE wrought in it in high relief. BENVENUTO CELLINI describes three medallions that he made for wearing in the hat or cap. Two were of gold, one a Leda and swan, another Hercules tearing a lion; the third was of silver, lapis lazuli, and crystal, and contained a figure of Atlas with the world on his back. The figure was of silver, the world of crystal, the zodiac of lapis lazuli, with the signs inlaid in gold, and the background of the medallion lapis lazuli, the margin being made of silver wrought "with fruit and flowers, and other charming things bound round." To this same artist we are indebted for the introduction of damascened steel-work—i.e. inlaying swords, halberds, &c., with gold, as practised in Damascus. The partizan was one of the new weapons of this reign, and both this and the halberd and the way of carrying and holding them may be seen on the tomb of FRANCIS at St. Denis, illustrated by M. QUICHERAT in his "Histoire du Costume en France."

In stage representation there may naturally arise an objection on the part of the manager, be he ever so liberally inclined, to clothe his *dramatis personæ* in velvet cut on real cloth of gold, but why the genuine patterns of the sixteenth century should be thought equally difficult to attain is somewhat strange, seeing that many of them were carefully reproduced in Birmingham under the direction of the late AUGUSTUS WELBY PUGN about five and twenty years ago, and that one or two have been reproduced within the last two years under my own direction for Messrs. COLLINSON & LOCK. I have also seen at Messrs. GILLOW's some remarkably good reproductions of early Renaissance fabrics, and I believe Messrs. COWLEHAW, NICOL & Co., of Manchester, are directing their attention to the revival of genuine old designs in brocades, damasks, &c. So that, apart from the very costly materials, there are no difficulties in the way if any one wishes to revive HENRY VIII. and the world of his day—so close to SHAKSPERE's own time that he might easily have had it described to him by an eye-witness. On all sides authorities are to be found without any trouble to unearth them. HOLBEIN is especially to be noted, and his life-size cartoon of the KING at Hardwick Hall, made A.D. 1537, must on no account be overlooked. NICHOLAS HOGHENBERG's series of prints, representing the triumphal entry of the Emperor CHARLES V. into Bologna A.D. 1530, may also be consulted as an authority for the costumes of the foreign nobles, ambassadors, &c., who might be introduced to fill up the picture of this highly pictorial play.

PROFESSOR WILLIS.

IN a few well chosen expressions, which were none the less worthy of admiration because they must have been entirely unpremeditated, Sir GILBERT SCOTT announced the decease of Professor WILLIS on Monday evening last to the members of the Institute, the news of which event had reached him as he entered the meeting room. In doing so he bore a tribute which, if brief, was yet discriminating, just, and hearty to the great powers and rare qualities of the learned Professor. It is perhaps remarkable that at the very time when it has become the fashion for those professionally connected with architecture to cry down the claims of amateurs, the decease of this remarkable man should recall attention to the eminent services rendered to architectural science by one who, though he obtained the well merited honour of receiving the Royal Gold Medal of the Institute, was in no shape or way an architect.

By profession a clergyman, by position Jacksonian Professor of Natural and Experimental Philosophy in the University of Cambridge, Professor WILLIS took up the study of architecture as a relaxation, and approached it from the antiquarian's, not the practitioner's, side. His was essentially an inquiring mind; he was keen in research, acute in observation, and logical in judgment, and his mathematical training qualified him to comprehend and to unravel the complications of constructions of even more than ordinary complexity. His learning as an antiquary, his familiarity with Medieval Latin, and his perseverance in following up even a slight clue, com-

* At an evening party held in the Parliament House at Westminster ladies appeared for the first time in *short* or *demie* sleeves, with bare arms, i.e., "naked down from the elbows."

bined to render him eminently fit to investigate subjects towards which attention had forty years ago been only newly turned.

The value of his early manual on the architecture of the Middle Ages and Italy* must not be measured by its importance to the student at the present day. Other labourers in the same field have produced works which are certainly more modern, and perhaps more comprehensive and more ample. But WILLIS was one of our pioneers, and the work he did was performed on all but untrodden ground; and it was performed completely and faithfully as far as it went. A subsequent essay on Gothic vaulting, which forms one of the ornaments of the "Transactions" of the Institute, may be accepted as a better specimen of the man and his method of working. Here the subject was a limited and a difficult one, and if the whole field is not occupied, that portion at least to which the main part of the essay was devoted is surveyed with an accuracy and a completeness which may be said pretty nearly to have exhausted it. We allude here to the fan tracery vaulting of the Tudor period, the nature of which is so thoroughly examined, analysed, and referred back to first principles, that so far as we know no subsequent inquirer has ever thought it worth while to attempt more than a re-statement of WILLIS's demonstrations; and that too in language which commonly has decreased in clearness and force in proportion as it has departed from the original.

Services of this class are exactly those which may most appropriately be rendered to such an art as that of architecture by studious and able men not themselves engaged in the practice of construction. Where a structural feat has to be accomplished the case is different. Such an undertaking as the Menai bridge, for example, could not by possibility have been wrought out in its entirety by a mathematician, even of the most brilliant powers, unacquainted with the practical management of iron and stone, and the difficulties of detail which have to be encountered and overcome in the conduct of a great work. An attempt of this nature could only by possibility succeed in the hands of a man of the immense practical power and wide experience of a STEPHENSON. Again, the skill of the mathematician and the learning of the antiquary would have been entirely at fault in the attempt to plan, design and erect a pile like the Houses of Parliament or the new Law Courts. The creative faculty, the power of grasping a building, and the skill which causes each detail, whether of arrangement or of art treatment, to take its proper place as an integral part in a great whole, these are the gifts or rather the attainments of a man of a different order to that of which WILLIS was so bright an ornament; and it is in discharging this work aright that the trained architect hopelessly distances the comparatively unpractised amateur.

Fifty years ago, however, when Professor WILLIS took his degree,† and gained with his fellowship a first instalment of that "learned leisure" which left him free, to some extent at least, to select his own objects of study, much—we had almost said everything—remained to be learned with reference to ancient Gothic architecture. The inquiry was one which could be successfully undertaken by any enthusiastic and painstaking antiquary who could approach it unfettered by preconceived habits of construction, and unwarping by erroneous notions of taste or decoration; and we find that investigators who were not architects worked on it side by side with those who were; so that, together with such names as RICKMAN, PUGIN, and SHARPE, we have to acknowledge our indebtedness to WILLIS, PETIT, GALLY-KNIGHT and PARKER as having done good service in the field; without them, indeed, our knowledge of Pointed architecture would probably even at the present hour be far less complete than it is.

It was, however, as an investigator into the architectural history of individual ancient buildings that Professor WILLIS was best known, and in this branch of antiquarian research his unrivalled excellence was keenly appreciated. To borrow a phrase from the stage, he "created the part," and though many have tried their hand at it since, no one has been found to equal him. Every other antiquary deals largely in probabilities, pointing out what it is likely may have been the history, or intention, or appropriation of buildings under consideration, and is only able to arrive at certainty with regard to small parts of the subject. WILLIS, however, laid so secure a foundation that he was able to build upon it without leaving much room for doubt; not, indeed, thrusting upon his hearers the *ipse dixit* of a man whose reputation commanded respect, but leading them step by step with him till they were convinced by his reasoning that affairs must have been as he represented them. He examined in turn a considerable number of our cathedrals and some of our abbey churches, and it was year after year the delight of those who attended the congresses of the Archaeological Institute to hear the results of these examinations, delivered in a lucid, calm statement, such as the one which formed the foundation of his inimitable "Architectural History of Canterbury Cathedral." Professor WILLIS used to begin by laying a foundation of known historical facts. He would examine the fabric-roll if there was one, and any muniments which existed, and he generally succeeded in obtaining a series of statements as to the names of abbots, bishops and other dignitaries who carried forward the works at certain dates, with perhaps some reference to the portion of the building which each had in hand. Armed with this information he approached the building itself, and, not content with

the ordinary vague recognition of one portion as thirteenth century and another as fourteenth, and so on, he strove to discover the portions which each individual had directed, to trace the place where the work had been abandoned, and to detect by small peculiarities of design or workmanship the resumption of it by a different hand; till by dint of patient scrutiny and logical argument he at last succeeded in deciphering beyond the possibility of mistake no inconsiderable portion of the history of the building which he was examining, while in those portions where he had only suggestion to offer and probabilities to advance, he had such good grounds to state for what he proposed as being likely that he generally carried his hearers with him.

As specimens of painstaking antiquarian investigation, performed with zeal and thoroughness, these examinations of English Cathedrals have very rarely been approached, and have never been equalled. It is matter of great regret that, as was stated by Sir GILBERT SCOTT, these have been in only a few instances printed. Some of them exist reported in the "Journal of the Archaeological Institute," and perhaps some others might be recovered in an imperfect way by searching for old newspaper reports; but unless notes far more copious than those which the Professor held in his hand on these occasions exist, many of these discourses must be lost beyond recovery. The facts, save where the hand of the restorer has been too fatally busy, however, remain, and can be rediscovered if anyone will take the pains to search for them who is gifted with the same keenness and thoroughness, whilst the method of investigation having been once made clear by his example, many others have followed it with more or less success.

Among the contemporaries or successors of Professor WILLIS as demonstrators of the anatomy of ancient buildings, if we may be permitted the expression, a high place must be accorded to the late Rev. Mr. PETIT, whose marvellous skill and swiftness as a sketcher were of great advantage to him in his examination of architectural remains; Mr. FREEMAN and Sir GILBERT SCOTT for churches; Mr. PARKER for domestic work; the late Mr. HARTSHORN and Mr. G. T. CLARK for castles, have all proved themselves painstaking investigators and good describers; while Mr. E. W. GODWIN, on the few occasions when he has undertaken a similar task, has not only shown great ability in antiquarian research, but also has struck out a somewhat new line for himself, for he has ventured to criticise the work of our forefathers with a courage which, were it not based on sound judgment and wide knowledge, would be called presumption. His criticisms, however, being those of a man who thoroughly knows what he is about, are instructive and suggestive in no ordinary degree.

Although each of these gentlemen has done good service in his own department of architectural research and description, it is not upon any one of them that the mantle of Professor WILLIS has fallen, and it is to Mr. EDMUND SHARPE, if to any living man, that we must look to fill the void which the retirement of Professor WILLIS some time ago, and now his decease, have left. He alone seems to unite the necessary leisure, the power of careful, patient investigation, the skill in marshalling an army of facts, and the faculty of lucid expression with the pen or by the living voice, which were all combined in the late Professor WILLIS. Mr. SHARPE, in his efforts to aid the members of the Architectural Association to study existing buildings, has undertaken by far the most useful and important work which lies open to a man enjoying the gifts and attainments which he possesses, and we trust that nothing will prevent his continuing to afford this aid for many years to come; but still, if his leisure permits, we hope he may also find time to prepare for his brother antiquaries and architects analyses of ancient architecture, such as he delivered with so much success among the abbeys of Yorkshire, at the Congress at Ripon, last July. If this be so, it would only be an additional justification of the selection which has been so recently the subject of discussion in our columns, and in accordance with which the council of the Institute have nominated him to receive the Royal Gold Medal, by the award of which, years before, they recognised the eminent services of the great man whose removal we chronicle to-day.

BREATHING WALLS.

IN many dwelling houses, especially those occupied by persons of ample means and luxurious habits, an open fire will be found during inclement weather—such, for example, as that of the last few weeks—blazing away in each of half-a-dozen or more rooms, while every crevice through which a jet of external air can enter to supply the large demand made by those chimneys, is almost hermetically closed, partly by the excellence of the joiners' work, and partly by the care with which strips of paper have been pasted over the meetings of the sashes, and list or india-rubber fillets have been applied to the doors. The fires, notwithstanding, continue to burn merrily, and from each fire-place a current of air is leaving the house, having a sectional area of about five-sixths of a foot, and a speed which no doubt varies widely, but, at the lowest estimate, must be something very considerable. Whence are these currents supplied? Primarily, of course, any open window in any part of a house is liable to be drawn upon, notwithstanding the closed doors, and hence, by the bye, as the window of the w.c. is ordinarily the only one which

* Published A.D. 1835.

† A.D. 1829. He was ninth Wrangler.

it is customary to leave open in all weathers, the supply of air most easily obtainable for the interior of the house comes from the very source where the danger of vitiation is greatest. It is not, however, through this small casement that the air which is being carried off by six or eight blazing fires can be supplied. And yet shut up the house as tightly as we will there seems to be no sign of difficulty in making up what is lost. The solution of this enigma has been pointed out by a German investigator named PETTENKOFER, whose experiments are alluded to in a Paper on ventilation read before the Society of Arts on February 18, and reported in the *Architect* last week. It was discovered by PETTENKOFER that the walls of an ordinary brick house were pervious, to a very large extent, to the external air. So much so, indeed, was this the case, that he estimated the amount of air passing through a superficial yard of wall in an hour at 43 gallons, a result which, taken approximately, approaches one cubic foot of air per hour passing through each superficial foot of wall. This is a by no means contemptible addition to the amount of fresh air obtainable in other ways, and it is without doubt gained in the best possible manner, that is to say, with an absolute absence of anything like draught. We are in need of further experiments on this subject, and we shall probably find when they come to be made that a considerable difference exists between different building materials in their perviousness to air. Brick is undoubtedly very porous, and so is the plaster ordinarily used on the walls of our rooms. Wall papers are to a greater or less degree porous, according to the quality of the colour on them, and the thickness with which it is laid on; but paint may be expected to furnish a less porous covering than almost any description of paper ought to make. It seems, therefore, as if walls finished in trowelled stucco and then painted are less likely to permit the filtration through them of external air than those which are papered, and this being so it appears doubtful whether the hard trowelled surface now adopted for hospital wards may not be to some extent disadvantageous. The subject is a curious and instructive one, and deserves attention from all those interested in the problem of how best to render dwelling-houses healthy and comfortable; for the rapid change of air occasioned by our salutary custom of heating our rooms by means of open fires, kindled in grates which communicate with the external air by means of a chimney of large size, lies without doubt at the root of much of the good health enjoyed by average Englishmen, notwithstanding the exceptionally trying and variable climate of our country. As was shown by experiment years ago, the action of a fire is to throw out heat into the mass of air in front of it. This heated air rises almost direct from the front of the mantel to the ceiling, and extends there in all directions, descending at or near all the walls, but with exceptional rapidity near the windows. The air travels along the floor towards the fire-place, whence a large volume of it is constantly being drawn off to feed the fire, and escape up the chimney, while that not required for this purpose, becoming re-warmed by the heat radiated from the fire, rises once more, and recommences its journey. This circulation, which is constant, is under ordinary circumstances insensible; but to anyone standing in front of a window or in front of the fire, its existence often becomes sensible, and it may be demonstrated by permitting loose filaments of fine silk to hang in different parts of the room and watching their behaviour. It is manifest that such a circulation must carry off with it many of the products of respiration, &c., which originally rise to the upper part of the room; and that if we can supply the waste of air by permitting the external atmosphere to filter through the walls of the house, we are contributing largely, supposing that external atmosphere to enter in a pure state, to the freshness of the room, and are preventing the occurrence of keen currents of air. This element in the complex problem of ventilation deserves more attention than it has yet received.

SEVERITY IN CHURCH ARCHITECTURE.

By AN OCCASIONAL CORRESPONDENT.

(Concluded from page 118.)

MR. SHARPE has recently repeated almost word for word at the Ripon meeting of the Archaeological Institute his description of the rise of the Cistercian order and its principles, contained in his former pamphlet. Though no bigot, it is clear that he is not a friend to the great movement that has been spreading since the time of the Tractarians, a movement to a large extent the very reverse of the Cistercian. For better or for worse? Let us hear what Mr. Sharpe says about it. "In this frequent recurrence of the same causes and the same effects from time to time in the history of the Church we recognise, in the first, the natural proneness of human nature to that which captivates the eye and pleases the senses, and the constantly increasing tendency to ornate services, to *surface decoration*" (the italics are mine), "to a sensuous ritual, to pictures and images, and ultimately to superstitious observances and saint worship; and we see in the second the sure result of that revulsion of feeling which suddenly arises when the lowest point in this downward progress of mental subserviency is arrived at." The Cistercian order forbade prostration in their churches, and any abject position of the body whilst praying. They abolished saint-worship, and permitted their churches to be dedicated only to the Blessed Virgin. They tolerated no images or pictures, even of saints, nor indeed

the representation of the human form on their walls, in their windows, nor even the crucifix itself. Stained glass, except with a great deal of white, was forbidden, and, in respect to white glass, I think the Cistercians did wisely—would that some painters would follow their example!

Mr. Sharpe eulogises their severity in respect to colour, images, &c., but it appears to me that the order must have been abnormally Puritan, and that even in their prime the buildings must have looked rather cold and cheerless notwithstanding the grandeur, the vigour and boldness of their design, the beauty and finish of their exquisite detail, and their splendid harmony of proportion. In the nineteenth century time has mellowed them, and sweet Nature helped to clothe any nakedness they may have had. Mr. Sharpe says of the Cistercian architecture, "delighting rather in form and outline than in colour and in surface decoration." I, like many others now, want both; yearn for colour as well as outline, and fail to see that by this means the characteristics of severity would be impaired, or superstition encouraged. Of course the proportions and the architectural framework are the first and paramount considerations, and in many cases these may be left so. But the full consummation of architectural effect is never reached unless the harmony is completed by the use of colour and sculpture, while the fittings should be rich, the vestments of the clergy likewise, in their turn, glowing with colour, even in the ritual of the English communion. Where funds are not forthcoming for figure subjects as mural decoration, members of the congregation can generally be found to lend some of their religious pictures to hang in the church, and even as a permanence, pictures are valuable artistic aids to the building, a fact that Mr. J. T. Micklethwaite, F.S.A., and Mr. Basil Champneys have lately very justly insisted upon.

Though not so appropriate as mosaics or fresco, they are a good substitute, and give a warmth and life to the church.

It is singular that at the Brighton meeting of the Church Congress one of the speakers should have received so little attention, nay almost provoked laughter when he suggested pictures in churches as a suitable embellishment. Still, care should be taken that they have a real devotional spirit, and are above the average merit.

I fear that Cistercian principles in their strict integrity will scarcely now pass muster. It is like reviving monasticism again—we may admire the spirit that prompted monasteries, but do not see the desirability of adopting such a system again. Far otherwise is it with colour and ornament. With art schools daily springing up and increasing in numbers throughout the land, with ever enlarging luxury, with the almost boundless riches and habits of travel, any attempt at asceticism in ornamentation must be a failure and anachronism. Again, there are far more liberal and broad views than formerly; distinctions between the great camps of the Christian church have become less formal.

In the discussion of the interior, broadly considered, I omitted purposely a few details to which I must now allude. The triforium, or stone gallery, is a beautiful though costly feature, and even if made sufficiently capacious to be of practical use, is liable to the objection that one body of worshippers is separated and cut off from the bulk of the congregation, even more so than in the bygone days of Georgian galleries. The good effect of a triforium may partially be obtained by a boldly recessed arcade of sufficient height, where either sculptured figures or mosaic subjects might be placed.

If there is to be a chancel arch, it should be thick, and with bold mouldings; and if it possesses shafts of marble, these should be only half polished, unless the chancel is lined with alabaster or otherwise very rich.

The naturalistic, so called, treatment of carving in foliage, &c. (in the style of the Oxford University Museum), with birds, flowers, fruit, and reptiles, should be adopted with caution—a little of it will go a long way—much repetition of such pleasantry becomes painful. To be severe the foliage must necessarily be rather conventional, and nothing could be better than an adaptation of the Transition between Early English and Norman, and the Early French type. The base of the rood-screen may be plain, but in the upper portion severity is out of place, and the tracery, &c., may be made decidedly ornamental. Crocketed pinnacles and little buttresses are to be avoided here, except in great moderation, as being inconsistent with our "ascetic" rule. Carving in foliage, or figure sculpture is, too, most appropriate, with a fair allowance of cusping and feathering.

An elaborate wrought-iron screen, decorated in numerous colours and profusely gilded, is to be deprecated, for the effect is scarcely ever satisfactory, whereas an oak screen may be partially coloured with tints rather subdued, the ground-work of the wood being left in its natural state. Nothing looks better in a richly decorated building than a polished brass screen without any colour at all; it is a relief to the ornamentation, and yet with its handsome polished surface is safe to assimilate with it. Or the rood-screen may be composed of marble or stone. That at St. Mark's, Venice, is a good example of the former material. In the case of a plain wrought-iron screen, metallic twists and curls look much better than any attempt to exactly imitate flowers or leaves. In the chancel pavement, I would venture to recommend marble, or marble and tiles in combination in sober tints, as preferable to brightly coloured patterns of encaustic glass tiles. Poppy-head stall ends to the choir seats are too pretentious, and it is better to adopt some other treatment to keep down their height without sacrifice of dignity. If they have canopies, the same rules mentioned with regard to crockets and pinnacles in the rood screen, will equally apply here. Where chancel screens and gates exist, altar rails are unnecessary, and the sanctuary looks all the better for their absence. In the reredos, all the imagery, and the richest and most sumptuous decoration in the churches should be applied. Nevertheless, too many gables are an error, and the ornament between the altar and the side walls should be very quiet. The altar should, of course, be high, and approached by as many steps as possible. It need scarcely be said that the east window ought to be well raised above the floor, both for better effect of light, and to afford sufficient height for a noble reredos. The organ is very often placed either on the north or south side of the chancel, but nothing can be a greater mistake than an elaborate wood case with pinnacles and buttresses, and tracery

quite shutting out the pipes from view. If the instrument is to look rich, the pipes can be quietly dispersed and slightly gilded, while very little woodwork is used. Supposing the chancel is vaulted, nothing looks better than simple quadripartite or sexpartite vaulting with bold ribs—terne ribs and fan tracery are not consistent with severity—nor is a ceiling like that to the choir of Wells Cathedral, which is nothing but a barrel vault, traversed by a mass of short ribs in geometric arrangement. Such a treatment as that at Westminster Abbey, where the jointing of the filling-in stones is displayed, and grisaille decoration put around the intersection of the ribs and bosses is very appropriate.

I cannot see the object of making so much of the pulpit as to fill its panels with emblems or figures, or to stud it with floriated crosses. Let it only be handsome, but quiet, without being meagre or out of character with the rest of the building. The same remark applies to the prayer desks and chancel seats. They should be of oak or other substantial wood, such as mahogany or Italian walnut, and be comparatively unobtrusive in design, and without much ornament or carving. Little grotesque animals or figures are quite out of place in modern seats, and only tempt the choristers to play with them.

The benches for the nave had best be kept very low, and constructed in a light manner, either in skeleton framing of deal or oak. Massive panelled and traceried solid ends are not required. But on the other hand, I can scarcely agree with Mr. Street in desiring to see only chairs. I can understand such chairs as virtually resolve themselves into fixtures, owing to their being attached by battens, and so not easily movable. But in a large congregation it would be a great nuisance to see all the individual chairs scattered about, and regular worshippers forced to carry them from one part of the building to the other. Yet, if the benches are skeleton-framed and the whole area of the church tiled over, Mr. Street's notion of a vast unencumbered area is to a great extent realised, while the worshippers are rendered less uncomfortable. Moreover, the temporary makeshift appearance of rush-bottomed chairs is avoided. Varnish to seats and doors (which are otherwise liable to be soon rubbed and made dirty) is politic, but in other joiners' work its use is best avoided. Though this question of chairs may to some appear irrelevant to the title of this article, nevertheless the point has an important bearing on architectural severity as I have endeavoured to show.

I have now said enough to demonstrate what an ideal church, suitable to present wants, might become, which, possessing the noble characteristics of a Cistercian structure, would yet, however inferior to that in its genius of architecture, reflect the warmth, the vigour, the heartiness of such congregations as those gathered at All Saints, Margaret Street; St. Mary Magdalen, Munster Square, and numerous others in London. Not that there is any lack of "severe" churches, for many of them most justly merit that epithet—rather too much so—but would not lose one jot or tittle of their solemn effect by any of the additions suggested in the preceding remarks. The great work that has to be, and must be done, is the rooting out, neck and crop, the regulation pewed system, with its appropriated sittings. As long as buildings are permitted to be reared for such a purpose, so long will vulgarity and ostentation in architecture prevail. The grand desideratum is a mean between the two extremes: the bald appearance of a Cistercian-like building, destitute of colour and sculpture, though chaste and beautiful in its proportions; and next—the hired pewed church, with elaborate traceried windows, showy pulpit, pretentious reredos, glaring painted glass, surmounted by a heavy, darkly stained and varnished open timber roof. A roof which reduces apparently the height of the interior, and exercises a depressing effect on the worshipper, who for relief looks down to the floor, only to find he has fled from Scylla to Charybdis, for there he sees all the colours of the rainbow harshly blended together.

The type I have selected for illustration is suited for a building in a large city or town where funds for an edifice such as that just erected at Kensington—St. John the Divine—are not forthcoming. At the latter church there are numerous traceried windows to the aisles, with richly moulded arches, piers, and doorway. All such decorative features are natural and appropriate here, where no stint of money existed, whereas the pretentious five-light windows, turrets, pseudo-towers, canopied buttresses, &c., attached to a small church costing two or three thousand pounds are a mistake.

Such a change is not to be brought about quickly or without strong effort; but as the eye becomes more familiarised with a better type of church, we may hope that public taste may improve. The last ten years have produced many churches aiming at truth; let us hope that the ensuing decade may be even more successful.

PROFESSOR BARRY'S LECTURES ON ARCHITECTURE.—I.

DELIVERED AT THE ROYAL ACADEMY, ON FEBRUARY 22.

(Continued from page 121.)

AND first let me direct your attention to the name "master-workman." What does this mean? Apparently the chief of a trade, for Phidias is called a master-carver, and Giotto is admitted to have been a master-workman as regards his sculpture. The system pressed upon us would therefore amount to this, that for our great modern buildings requiring a variety of trades, a variety of chiefs must be engaged—one at least for each trade, and, indeed, for some trades several, if, for example, we adopt the suggestion of a dozen such chiefs working on the foundations of the new Law Courts.

But this body of chiefs must, we should think, have some superior, if only to define the application of their respective trades.

Is a roof to be handed over to the master-mason for a stone vault, or to the master-carpenter? Is a screen to be of wood, iron, or masonry? Who is to be responsible for the safety and propriety of the thoughts which are to arise, and render necessary sudden changes of detail of plan? or who is to see that all trades so work together, that cracked towers are

not to be too common? Clearly there must be some one to do all this, to say nothing of other duties now falling to the architect. Oh! but some will say, there is to be no architect. Be it so, and we will call him a master-workman, which only brings us back to the conclusion that there must be some supreme authority over architectural works, whether we call him architect, surveyor, master-workman, or anything else.

This is, in fact, what is meant by the Greek word ἀρχιτέκτων, with its derivation from αρχή, the beginning origin, or cause, and τεχνε, to contrive.

No one feels more strongly than I do the desirability of raising in every feasible way the artistic status of the workman. There can be no doubt that much of the charm of old buildings may be traced to the harmonious working of many minds in its details, but this is no argument against a general design and supervision of the whole by some one, who, whether he be called architect or by any other name, is to secure harmony both of plan and execution, in a great and complicated work.

We shall require an amount of proof which has not as yet been forthcoming, before we can admit this theory of the master-workman in times past; and even if it were proved to have been the ancient rule, much would need to be considered before we could conclude that we must necessarily take a step backwards, and adapt our customs to those of past centuries.

It is of little use for critics like our author to rail at the refinements and luxuries of modern days, and declare that "greed" is the curse of modern England. All this may be very true, and well worthy of our attention as moralists, but such declamation helps us but little in our study of architecture. With every desire to uphold the dignity of a noble profession, too much responsibility must not be laid by us upon it. It is not the province of architects to reform the world, but to bear their share honourably in its daily work and progress.

You, gentlemen, who are to be the architects of the future, are in little danger of being permitted to forget that your lot is cast in the nineteenth century, and that you must please in order to live.

Let us assume, for a moment, that all this argument about the master-workman of old is proved, what does it amount to? Surely to this, that in the course of time the plan was found inconvenient, and has been laid aside for good and sufficient reasons. When we are called on to surrender present habits, and to retrace our steps, the burden of proof clearly lies on those who demand what on the face of it appears unreasonable.

Consider for a moment the complexity of modern buildings, with their almost infinite requirements of construction. Can we reasonably compare them with the simpler structures of antiquity? If we are to be told that this is but a proof of our decadence, and that we should return to simpler habits, I reply, in the first place, that this is a moral rather than an architectural question; and secondly, that it rests with the objectors to prove their case.

It does not follow, as some would seem to think, that every departure from ancient custom is necessarily a step astray. I was lately in a modern Gothic country-house, in which the absence of dressing-rooms was explained by the dictum of the architect, that dressing-rooms were never used in Mediaeval times,—a principle which might be pressed much further than he perhaps realised.

New wants and habits will, of course, arise as the world grows older, just as surely as the habits of an adult will vary from those of a child.

The simplicity of plan of the Greek temple is patent to all. The atrium and cella on one floor only, enclosed by windowless walls, themselves surrounded by unbroken ranges of columns of uniform design, called for no complication of design. The Parthenon may, in fact, be looked upon chiefly as a frame for sculpture, and in such a case the chief responsibility would properly fall upon the sculptor.

In a modern work this is reversed. We are told to picture to ourselves a dozen architects at work on the foundations of the Law Courts, because it is assumed that with a chief or two Ictinus built the Parthenon, and because four master workmen were engaged on the foundations of the Temple of the Olympian Jove at Athens. Surely this argument can scarcely be serious. Think for a moment of the actual realities in the case of the new Law Courts, or any great modern building. I have not seen the plan as now finally arranged, but I am able to direct your attention for a moment to one of the plans prepared in competition, which will serve, as well as another, to give you some idea of the difference of complexity between such a building, and the temples of ancient Greece.

Nor is such complication an exceptional or isolated circumstance. There can be no doubt that what we call civilisation tends to complication. We see proofs of this all around us. It is a matter of common observation, for example, that the cost of Government increases daily, and this is because the wants of modern society are daily growing, and demand of its rulers an increase of public work, both as regards quantity and quality.

Modern science also is daily teaching us subtleties of fact and suggestion which do not always agree with the simpler rough-and-ready theories formerly adopted.

In ancient Britain, as now in countries which have preserved their primitive customs, the rain from heaven, and water from the spring or well, sufficed for man's requirements of water-supply. With us this is a problem taxing our skill and knowledge to the utmost, and unfortunately far from having been solved.

The same may be said of ventilation. Our ancestors may have been contented with their cheerless halls, with a hole in the roof for a chimney, or a huge cavernous fireplace, roasting those who were near to it, and leaving the rest unwarmed and uncomfortable. The floor of rushes, foul with moisture and dirt, the draught-admitting doors and windows, may also be among the customs of the "good old times" so many affect to deplore, but they are not likely to return.

Some people may tell us that hardness and rude health may have been promoted by such rough habits of life, but if so, it must have been at the cost of infinite suffering to the weak and delicate. We cannot suppose that our ancestors differed greatly from ourselves in physical constitution, so

that we may fairly conclude that thousands fainted in the way, which led only to "the survival of the fittest."

Do you think, however, that this is the way in which the world will again consent to walk, even if invited to it by the siren voices of architectural critics? And if you do not think so, what becomes of their denunciations of the complexity of modern requirements?

It may perhaps have struck you by this time, that our reformers have undertaken what President Lincoln called a "big job," in their proposals to revolutionise the practice of English architecture. Not only are architects to be abolished, but the whole course of modern life is to be changed, and, as our critic says, "Of course the trash that fills the Bond Street shops would disappear." Not a very simple programme this, nor one to be solved by a stroke of a pen; but there is more behind, as we shall see when we examine the description given to us of the working men who are to be the salvation of our architecture.

I said before, that when we are invited to join a revolution, we may ask ourselves who are to be our leaders, and what are the chances of success. Let us see what our author has to say to reassure us on these points.

He is quite certain that architects are the cause of all our troubles. They actually make designs as Giotto did; they are the acme of imaginative incapacity; and in this censure he includes, as we have seen, Giotto, Michael Angelo, and Raffaele. Let us see what he has to tell us of the men on whom the world, tired of such pigmies, is for the future to rely.

We shall be a little startled at the outset to find that the first preliminary is a general improvement of the morals of the working man, and while we are pondering how this truly great object is to be effected, we shall be perplexed to be told that "the change must be made not in the upper, but in the lower orders of society," because "morals do not descend."

So that in addition to the rather extensive programme already announced, we are now committed to a general reform of morals, before there can be any hope for English architecture. In the meantime, what do we read of the present state of things in the class from which the master-workmen are to spring? This is the description which our author wishes us to accept.

"Our present working classes are profoundly vulgar. The increase of wages and of general comfort does not much improve them, and instruction only serves to give them larger means to demonstrate their coarseness. Those who know them in their houses tell us that, as their wages rise, they revel in expensive luxury and display."

Most clients would think this a not altogether satisfactory presentation of their case by a self-chosen advocate, even if he admits, as he does here, that "in this they imitate their betters."

But some of us will ask, How about education? We have been told we must "educate our masters." Will this do nothing for them? Nothing, according to our author, as long as we follow our present methods, which only tend to the debasement of the imagination. For the latter, learning is no efficient substitute or supplement; as without imagination "every man is brutish in his knowledge."

In much of this I concur. Education is not a nostrum capable of itself of raising a nation—if we mean by education a system of instruction alone. We cannot safely neglect the imaginative and emotional part of man's nature, and it is this conviction which has led to a general consensus of opinion, in this country at least, that religious teaching must form part of anything that deserves the name of education, however we may differ amongst ourselves as to the wisest mode of regulating such teaching.

But the admission into our scheme of culture and of the development of the imaginative faculties leaves us still a long way from the goal to which our author seeks to attain. If our workmen need this development, are they alone in their requirements? Moreover, are we justified in giving such an unqualified description of their present state as that on which their advocate has ventured? I think not.

In all large classes there must, of course, be wrong-doers; and it is the characteristic of some minds to dwell on the exceptions, rather than on the general rule.

Our writer might have been expected to test his theory by personal observation before indulging in a sweeping denunciation of millions. He speaks, however, of working-men avowedly on the testimony of others who, he says, know them. This imparts to his scheme an air of its having been evolved out of his own consciousness. But is his picture true? I cannot admit it.

I decline altogether to draw up an indictment against whole classes; for they are classes, and it is foolish and misleading to speak of working men as if they formed one great class apart from the rest of their countrymen. They have their own various grades and customs, and (apart from the influences of trade-unions) are as independent of each other, and as little ready to be dictated to, as any of us.

If the description quoted were true of the majority to whom it refers, we may see how great a danger would threaten the State—a danger in which all anxiety for art might well become merged.

While, however, we cannot assent to our author's description of his clients, he is bound to admit it as against himself, and we may well ask how does it tell in favour of his proposals? Are we to change everything into an architectural chaos, in the hope that from its ruins our workmen will gain refinement, and cease to be "vulgar"? If his description of the class be true, or anything like true, what encouragement does he himself give us to place ourselves in his hands?

Much as we may all value, and rightly value, the improvement of the workman, it is too much to expect that our works of architecture should be devised with no other object than his elevation. Our art must aim at utility as well as beauty, and its works should be devised for the convenience and pleasure of society at large, and not for any partial object, even if that object should be the improvement of morals in the working class.

Moreover, it remains to be proved that the attainment of this object would render necessary the adoption of any revolutionary theory.

Let us suppose, *pace* our critic, that our architects survive the storm he would raise, is there no room, in the present system, for that elevation of

the status of the working-man on which he dwells so emphatically? I think that those of us who have had to deal practically with the difficulties of work will smile at this question. Unquestionably there is abundant scope in the everyday practice of our art for the skill and taste of the individual workman. Nay, this scope is enlarging itself from day to day, and deserves all our encouragement.

It is too much to expect that every name among a numerous class should receive recognition; but in all exceptional cases of merit the name of the workman should be duly honoured. There can be little difficulty in this, in an age when special skill of any description is the surest road to fortune.

In the meantime we must demur, on our author's own statements, to his conclusion that there should be a sweeping transfer of power from architects to master-workmen. It has long ceased to be held as an argument against our modern commercial policy, that we ought to produce everything for ourselves, and be thus independent of our neighbours. It is, in a similar way, too late to ignore that division of labour which we are compelled to recognise in modern times, and of which our system of professional architects is but one of the most natural results.

Before concluding, there is one other point on which I must dwell for a few moments. We have considered the steps to be taken in our reformed practice, and must now inquire of our counsellor what are our chances of success if we place ourselves at his discretion. Drifting on the ocean of change, who is directing our course, and to what port is he steering?

We have seen how fastidious is our leader. Giotto having dared to make "a fine design for foolish work," is not to be accepted as anything but a warning. Michael Angelo fares no better, and his Farnese Palace is described as at best "a majestic misery, cheerless as a prison, and incapable of human sympathy or popular delight." Of Raffaele we are told that his architectural painting in the Loggia ceilings of the Vatican shows "how little he had discovered of the sense and scope of decorative art." We remember how Cologne Cathedral has been dealt with, as containing "nothing lovely or of interest"—"folly and a waste." Of William of Wykeham we read that his work at Winchester is "a desperate collapse of art," and that "he touched nothing that he did not deface."

After this somewhat wholesale shattering of architectural idols, it will be a relief to some of us to find that there is at least one modern work in this metropolis, which we may venture to admire, as the latest instance of "true building master-workmanship." No intrusive architect has ventured on a suggestion, but the whole of the design, as well as the labour, has, we are told, been contributed by the working men themselves, many of them "working till twelve o'clock at night."

From a natural anxiety to discover what under the guidance of our new leader was to be the architecture of the future, I hastened to see the result of his theory, against which Giotto and the rest so greatly erred, and I am, therefore, now able to lay before you an elevation of the building for your inspection. It is situated at 93 Regent Street, Westminster, not far from the Penitentiary, and is called the Porticulis Club. It is executed in stucco.

I am not about to transgress the necessary rule of the Royal Academy which forbids criticism of the works of living artists; but as I have placed before you with impartiality the denunciations of our critic, it seems fair that you should have an opportunity of seeing for yourselves what he is content to accept. Let me counsel you to go and see the original for yourselves.

A very few words in conclusion. I have now asked you to examine a theory of reform which appears to be wholly impracticable, but I do not wish to be misunderstood. I do not for a moment intend to say that there is no room for reform in the practice of our art. I look for this (just as we must look for any general social improvement) to the gradual diffusion of taste, knowledge, and refinement. We all know how in modern times the manners of the upper classes have been changed, and softened by the silent action of imperceptible causes.

When the public understands and demands good architecture, it will be a hopeful thing for our profession. At present, those who know well, from their general experience, that to choose a bad doctor, or a bad lawyer is one of the most costly follies in which they can indulge, too often seem to think that architecture is a thing so simple, and easy, that anyone may be trusted with it.

Great works are usually put to competition, too often with very unsatisfactory results. Not to speak of the difficulty, which would almost seem to be insuperable, of securing candour and fair play, why should it be thought an inalienable privilege appertaining to those who have the conduct of public works that they should have the right to invite the architectural profession to a scramble, whenever any important building is to be erected?

Who would think of expecting the heads of the legal or medical profession to devote months of their precious time to his case, on the chance that one in a hundred might possibly be honoured by a commission? Is it reasonable to complain if architectural competitions so often result in failure? Their direct tendency is to encourage showy pretensions which deserve to fail, while they must degrade any profession which tolerates them, until they render it less and less able to attract learned and sensible men to recruit its ranks.

If people will continue to delude themselves by the belief that by competition they can obtain designs for nothing, they deserve little commiseration if it should turn out that the designs so procured should be worth exactly what has been given for them.

Whatever steps are from time to time taken by the Royal Academy or by our professional societies to improve the education of architects, steps which deserve our best support, all must be futile as long as excellence and knowledge give no guarantee of success, when opposed to the meretricious deceptions of an architectural lottery.

I am not concerned to deny that the writer to whom I have alluded may have done good service by his strictures, and I feel sure that few architects who are accustomed only to undertake such work as they are able personally to direct, will doubt the advantage of a more intimate connection

between themselves, and the master-workmen. They may, however, differ from the writer as to his practical conclusions, just as we may enjoy roast pork without thinking it necessary to set fire to the house, in order to cook the pig.

The master-workman has no better friend than the architect, none who desires more ardently his elevation and artistic progress. We must, however, decline to enter upon a course of architectural revolution, on the speculation that when all our established customs have taken flight, there may perchance remain at the bottom of the casket "Hope," as applied to English architecture.*

ROYAL ENGINEER PROFESSIONAL PAPERS.

THE 22nd volume of the New Series of Professional Papers of the Corps of Royal Engineers having lately issued from the press, it may be interesting if we pursue the same course as we did last year, and endeavour to give some idea of its contents, without affecting to dive too deeply into the scientific secrets of military engineering. Turning, however, to the table of "Contents," it is surprising to find that out of thirteen contributions, only two can be said to be exclusively of military interest; whilst it is a sign of the peaceful period we have passed through, that not a single Paper treats of actual war and the destruction which follows in the wake of modern armies. We are not even reminded of the march to Coomassie, owing, as the Editor states in the Preface, to the state of health of Lieut.-Col. Home, C.B., who had undertaken the subject. It will be necessary to wait till another volume is forthcoming for a professional account of the road-making, and bridge and hut building, which formed so onerous a part of that short and decisive campaign, and which we hope to receive from the pen of the gallant officer above named, who so ably directed the engineering operations of the war, and so greatly contributed to its rapid and successful termination. But, detrimental as it may be to the personal ambition and quick promotion of individual members of the scientific branches of our army, and much as they may regret that the field for the display of their genius for military engineering has been narrowed to a flying visit to the deserted capital of King Koffie, we ourselves are glad that our martial brethren have escaped the decimating influences of war, and have been living peacefully amongst us for the past few years, although now and then they have made a few raids into provinces which civil architects and engineers have been in the habit of looking upon as their special preserves. However, we are not sure that any have fared the worse for these friendly inroads, for it is always as well to be kept on the alert, whether by South Kensington officials, or the sweeping criticisms of our non-professional contemporaries. It must be owned that we are in the habit of regarding our military *compères* as more particularly at home when employed as agents in blowing down rather than in building up, in sowing seeds of destruction which often produce bountiful harvests for their civil brethren, who, in the midst of ruin and desolation, can gather some crumbs of consolation in looking forward to the future of reconstruction which will set in when the tide of war has ebbed. War is, with us, fortunately the exception; consequently, in peace, the officers of the Royal Engineers are necessarily employed upon the erection and maintenance of barracks and fortifications, on survey, telegraph, and other works, which help to prepare them for the more dangerous duties of their calling; hence it is that we generally find amongst their Professional Papers at least some subjects of general interest. At these we now propose to glance, knowing that we shall not be found fault with by the authors of the Papers we may refer to, for extending their sphere of usefulness beyond the limits of their own friends and brother officers, into the wider field commanded by our columns.

The volume opens with a Memoir of Major-General Sir Henry Marion Durand, K.S.C.I., C.B., R.E., by Lieut. G. T. Plunkett, R.E., from which we call the following interesting particulars of a well-spent life:—Born on November 15, 1812—a year alike memorable for Wellington's victorious career in Spain and Napoleon's disastrous retreat from Moscow—young Durand passed through the old East India Company's Military College at Addiscombe, where he was a contemporary of the present Commander-in-Chief of India, Lord Napier of Magdala, and where he appears to have fought his way in spite of a smallness of stature, which, though not noticeable in after years, must have been somewhat conspicuous amongst his brother cadets, since it seems to have been put forward by some of them as a reason against his promotion to the rank of corporal, a position which would place him in authority over them, somewhat in the same capacity as the monitors or precursors in our large public schools.

In 1828, when not quite sixteen years of age, he received his first commission as an ensign in the Royal East India Company's Corps of Military Engineers, and, accordingly, proceeded to the Royal Engineer establishment at Chatham, where he pursued his professional studies for a little more than a year, passing through with great credit; for we find General Sir Charles Pasley, the director of the establishment, recommending him to the favourable notice of Lord Fitzroy Somerset, in a letter in which he says "by superior diligence he finished before the others, and he is one of the most distinguished young engineers whom I have ever had under me, both in respect to diligence, ability, and conduct." On his way to India, where he arrived in May 1830, at which time he was only seventeen and a half years of age, he had the ill luck to be wrecked near the Cape of Good Hope, and the subsequent good luck to just escape being wrecked a second time, owing to his impatience to reach his destination, which led him to leave the vessel directly she entered the Hooghly, and push on to Calcutta in an open boat. His vessel was wrecked on her passage up the Hooghly, and in the forced absence of his luggage he procured an outfit from the clerical wardrobe of the Bishop of Calcutta (to whose palace he was apparently consigned), which procured him the title of "Chota Padre Sahib," or the "Junior Clergyman."

His first employment, after spending some time in learning the native language, was in surveying and reporting on suitable sites for military sanitaris in the hill districts, and on works at the head of the Jumna Canal, where he brought into play his geological knowledge, and, in conjunction with Captain Cautley, Lieuts. Napier and Baker (now known as Sir Probyn Cautley, Lord Napier of Magdala, and Sir William Baker), and Dr. Falconer, he discovered many valuable fossil remains, which formed the nucleus of sundry Papers contributed to the "Journal of the Asiatic Society of Bengal," one of which, containing a description, with etchings by Lieut. Durand, of a fossil ape of immense size, attracted the attention of Professor Owen more than thirty years afterwards, when M. Du Chailu, on his return from Africa, astonished the world by his accounts of the discovery of the gorilla.

His employment in the irrigation department appears to have brought him into constant contact with the owners and workers of the soil, and so gave him great opportunities for studying the land revenue system of India, and the wants of the native population, all of which he made such good use of, that after five years we find him made secretary to the Agra Board of Revenue; but the war in Afghanistan, with the chance of seeing active service, had greater attractions for him, and he succeeded in getting appointed as topographical surveyor to the Army of the Indus, with which force he marched, by way of the Bolan pass and Kandahar, upon the powerful fortress of Ghuznee, which, in the absence of a siege train, was taken by storm, the troops entering by the Kabul gate, after it had been blown open by powder bags piled against it by Major Thomsen, Capt. Peat, and Lieuts. Durand and Macleod of the Bombay Engineers. In firing the bags the slow match would not ignite at first, but Durand succeeded in lighting it by scraping the end with his nail. The stormers rushed through the breach formed by the explosion, but the main body of supports had been stopped and the retreat sounded, owing to an impression that the breach was impracticable, when young Durand reported the true state of the case to Brigadier Sale, who immediately led them forward and carried the citadel. A check before Ghuznee might have led to a disastrous retreat, whereas supplies in abundance were captured, and the army advancing marched into Kabul on August 6, 1839. Lieut. Durand was now appointed engineer to the Shah's army, and had the Bala Hissar, or citadel of Kabul, been occupied by the British troops, in accordance with his advice, the unfortunate retreat from Kabul on the breaking out of the Afghan insurrection, some two years later, would in all probability have been avoided; as it was, however, disgusted with the short-sighted weakness shown by the Political Resident, in yielding to the Shah's objections to the quartering of British troops in the citadel, he obtained permission to return with the army, and subsequently went on furlough to England.

About the end of 1841, marked by the outbreak of the Affghans, he was again in India in the important post of private secretary to Lord Ellenborough. In this capacity he was present at the battle of Maharajpore. In January 1843 he was promoted to the rank of Captain, and in March, the same year, he married the third daughter of Major-General Sir John Macaskill, K.C.B. We next find him as commissioner of the Tenasserim Provinces, where his energy aroused so much opposition, that after a time he was recalled and made chief engineer to the Punjab, having previously volunteered, unsuccessfully, for active service, on the outbreak of the first Sikh war; but after another term of leave in England he managed to come in for the second Sikh war, and took part in the campaigns of Chillianwallah and Gojerat, the conduct of which was ably criticised by his pen in the columns of the *Calcutta Review*, and special attention drawn to the evil arising from the division of authority in Indian campaigns, between the chief military and political officer: a defect which he had previously pointed out, and to which he attributed the disastrous retreat from Kabul in 1841.

After the Sikh war Durand became Political Resident at Scindia's Court, at Gwalior, and subsequently at Bhopal and Nagpore, during which time he published a series of articles on Indian policy in the *Calcutta Review*. After three years of leave in England we find him, in 1856, Superintending Engineer at Calcutta, and the next year at Indore, as Political Resident, just as the Indian mutiny was bursting into hideous life. The revolt of the native troops at Indore, in spite of the exertions of Durand and the other European officers, left no alternative but to escape as best they could; so yoking bullocks to the guns, and carrying on the limbers such of the women and children as could not walk, the British officers and residents commenced their retreat under a fire of grape and round shot, but fortunately made good their escape. Throughout the perilous march Mrs. Durand was most conspicuous by her presence of mind, and the encouragement she gave to the rest of the fugitives; but, unfortunately, she shortly after fell a victim to the trials and hardships she had undergone so bravely. During the rest of the mutiny he was actively employed in political charge of Central India, and subsequently was attached to the Governor-General for special duty. From 1858 to 1861 Colonel Durand was a member of the Council of the Secretary of State for India, and in that capacity strongly opposed the amalgamation of the Indian with the Imperial Service. He then, at the request of Lord Canning, returned to India as Foreign Secretary, and in 1863 became a member of the Council of the Viceroy, and served in that capacity until selected by Lord Mayo, in 1870, to succeed Sir Donald Macleod as Lieutenant-Governor of the Punjab; but the year had hardly closed before he was killed by an accident, whilst on a tour through the states under his command. On December 31 he set out to see the town of Tank, taking the Nawab with him on his elephant, when, in passing through one of the city gates, which was too low, the howdah struck against the top, throwing Sir Henry Durand to the ground and injuring his spine; he died the following day. We cannot do better than close this brief review of his career by quoting the words in which Lord Mayo, at a public dinner, announced his appointment as Governor of the Punjab:—"In Major-General Sir Henry Durand you will find a Lieutenant-Governor worthy to be the successor of Sir Donald Macleod; you will have one of the foremost men in the Indian Service; you will find in him all those great qualities which enable men to rule with success. You will find him firm, fearless,

* Since this lecture was written, the subject of it has been discussed at the Royal Institute of British Architects; and, while some of the arguments have been anticipated, I am glad to find that nothing has occurred to weaken their application.—E. M. B.

honest, and brave . . . he has ability enough to make him fill with distinction the highest position in the public service." Carried on by the interest attaching to the life of a gallant soldier and an earnest man, we seem to have lost sight of the engineer, amid the more stirring scenes which surrounded his path; but whether his engineering skill was put to any high test or not, there can be no doubt that he would have been successful in whatever he put his hand to do, since it was part of his nature to do it with all his might.

Our notices of the Papers which follow this memoir we must postpone to another issue.

ON SOME DIFFERENCES BETWEEN BRITISH AND AMERICAN ARCHITECTURAL PRACTICE.

THE following Paper, by Mr. William Fogerty, F.R.I.B.A., was read at the meeting of the New York Chapter of the American Institute of Architects, on Tuesday, December 1, 1874. We take the report from Van Nostrand's *Engineering Magazine* :—

A residence of over two years in the United States, during which I have visited the principal cities and become acquainted with many of the leading members of the architectural profession, having previously spent the greater part of my life in the study and practice of architecture in the United Kingdom, has brought fully before my mind many important differences in the systems of practice prevalent in the two countries, the consideration of which may not be unworthy the attention of this Institute. The differences I refer to are not such as relate to modes of construction, employment of material, or artistic style, but have reference to the business relations between architects, clients, and contractors, rates of remuneration, measures of responsibility, and such like, constituting what may be called the economic aspects of the profession, apart from the scientific or æsthetic, and as such may be conceived as of great importance in themselves, and as presenting peculiar advantages for comparison, with a view to the adoption in one country of what has proved advantageous in the other, or the rejection in one of what has been found objectionable in the other.

I am very far from assuming, as one would suppose to be the case with many who have written on this great country and its institutions, that because of the youth of the nation, therefore it must be content to remain behind in many things, or in other words, that it is not as yet sufficiently developed or educated to avail itself of every improvement, general or special, which has been proved and found desirable in Europe. I have heard this idea broached as often by native Americans as by Europeans, but from whoever it originates I disclaim all sympathy with it. On the contrary, I am convinced that there is no invention or improvement in the whole compass of modern civilisation for which this country is not ready, and which, if it be really an improvement, will not meet with recognition proportioned to its value. The experience of the past, short though it be, fully bears me out in this view. So far from being disposed to remain behind Europe in the practice of any art, science, or business, the disposition of the American people is, if I judge it rightly, to advance beyond the older portion of the world; and in pursuance of this noble ambition, as every unprejudiced person must admit, they have often enough succeeded; for it is easy to point to many things that are far better contrived, ordered, and settled here than in Europe. Nor are such things to be looked for outside the limits of the architectural profession. Many improvements, both in design and construction, are to be found in American buildings, for which, as yet, we look in vain in Europe. And even if we confine ourselves to the limited aspect of the profession contemplated by the present Paper, we find that in some particulars the condition of the profession is rather better here than there. For instance, the frantic and disgraceful struggles called architectural competitions are neither so numerous nor yet so humiliating as in England. Every time a church, school, or other quasi-public building is to be erected, a score or two of architects are not found ready and willing, as in England, to prepare elaborate and costly designs for it, on the bare chance of one of them getting the job and earning thereby a few hundred pounds or thousand dollars. Architects' assistants and draughtsmen are also somewhat better paid here than in England, though not as much in proportion as mechanics or other skilled helps. But when we have mentioned these two more favourable conditions, we have nearly exhausted all that exist, though not, let me hope, all that will soon be developed, when the really advantageous position which ought to be occupied by the architectural profession, in so great and growing a country is better understood.

Certainly, if we compare the amounts expended on buildings in this country with the corresponding amounts expended in England, the advantage would seem to be enormously on the side of the American architects. I have carefully observed the amount of work doing in several of the great cities, and am well satisfied that there is at least as much actual building doing in the United States as in the United Kingdom, but that the amount of money expended in this amount of building is on the average about three times as great. The difference is not so noticeable in small works, and the general use of wood in country houses tends to lessen it; but on the other hand, the use of brick, stone, and iron has become very general of late, and when we come to deal with structures where these materials are employed, the disproportion is enormous. I have little hesitation in saying that substantial buildings cost, on the average, five times as much here as in England. For instance, a first class city church, bank, newspaper, or insurance office, that would cost \$500,000 (or nearly 100,000*l.*) here, could be well built for 20,000*l.* there. Nor does this enormous difference of cost seem to have any effect in lessening the number of costly buildings to be erected. The American public seems determined to have great and noble buildings, at whatever cost—a resolve which should be at the same time honourable to the nation and advantageous to the architects. I know of only one building now in progress, in the whole British Empire, on which the expenditure, after years of discussion, has been authorised to reach a million of pounds, and yet I could name half a dozen buildings in progress

in the United States on which the expenditure is likely to reach three and even four millions of pounds. Whatever, therefore, may be the relative condition of the profession in the two countries, the public that has to be served is enormously more lavish in its expenditure on this side than on the other. Yet I fear that, whoever may reap the benefit, but a very small and undue share of this lavish expenditure must find its way into the pockets of the architects.

For when we come to compare notes as to the actual condition of the profession in each country, the advantage, apart from the two particulars previously noted, would seem to be altogether on the British side. First, the profession is much more numerous there than here. About 150 architects' names appear in the "New York Business Directory" for a city of one million inhabitants; while London gives about 1,000 to a population of three-and-a-half millions. Even this comparison should be adjusted, for the London and New York architects are not so much dependent on their respective cities as on the country at large, and I need scarcely say that the population of the United States is considerably greater than that of the British Isles. And, leaving numbers out of the question, let us compare the incomes realised as far as they can be judged. The profession of architecture is not a particularly lucrative one anywhere, but nevertheless, I think among its members indications of well-being are more manifest in England than in America. The leaders of the profession there, who are generally noted by having the somewhat doubtful honour of knighthood conferred upon them, have also commonly realised adequate fortunes or incomes, and, in a fair number of cases, have sat in Parliament and become chairmen or directors of banks, railways, and insurance companies. And the men in good practice, next to them, generally manage to keep up as good establishments as the men of same rank in other liberal professions. I must say I have heard very few cases of fortunes made by architects in America. Among the numerous biographies of self-made men, which form so large a part of the popular literature with which "young America" is regaled, I find merchants, manufacturers, lawyers, doctors, contractors, engineers, builders, store and hotel keepers in abundance, who, in greater numbers than in any other country, have risen from nothing to affluence, but rarely, if ever, have I found mention of an architect of whom the same can be said. The only remarkable case I can call to mind is that of the late John Kellum, whom, as I am informed, this Institute would not admit to its membership. It can hardly be doubted, I think, that in this country architects are not much appreciated. Those of them who occupy public positions, even though charged with the direction of enormous and costly structures, which cannot be rivalled in these respects in Europe, are yet paid salaries which, when the high price of living is considered, amount positively to a bare subsistence. The architect of the United States Treasury in Washington, directing an expenditure of from ten to twenty millions of dollars annually, and conducting what is undoubtedly the largest architectural business in the world, receives the magnificent sum of \$4,000 (less than 800*l.*) a year. The State of New York is a little more liberal to the architect of the new Capitol—one of the greatest architectural works the world has ever seen—and allows him \$10,000. Compare these with the salary of the architect of the City of London, who has only to attend to the buildings undertaken by the Corporation of that one city, and receives 3,000*l.* a year, besides a liberal extra allowance whenever special arrangements have to be made for the reception of a Sultan, Shah, or Emperor. Although Sir Charles Barry considered himself shabbily treated, he received 3*l.* per cent. on about two millions of pounds for the new Houses of Parliament, and the vigorous remonstrances made by the profession on that occasion secured that in all future works of like magnitude, such as the Government Offices and the Law Courts, the regular rate of 5 per cent. has been adhered to. A still more significant example of the slight esteem in which architects are held here is to be found in the notices of public buildings by the press. Rarely if ever is the architect's name to be found in any of these. The committee, contractors, superintendent—anybody is deemed worthy of special mention but the architect, whose share of the work is not considered worth mentioning. Intelligent Americans, both at home and abroad, are not slow to boast of the great structures to be found in this country, such as the Capitol and other public buildings at Washington, but not one in a hundred seems to know who were the architects of these great works, or if he does happen to know, to think anything remarkable about them as having exhibited genius, skill, or taste of which the country might be proud. Not so the merest ragamuffin in the streets of Florence or Vienna, who knows all about Michael Angelo and Palladio; or the youngest school-boy in London, who knows St. Paul's and the London churches as the works of Sir Christopher Wren. The material elements of a building, its dimensions, the amount of granite or marble used in it, and especially the number of millions of dollars it has cost, are considerations to which the American mind is fully alive; but the mental or artistic element, the brain work involved in the design, and particularly the man who supplied this brain work, are matters apparently regarded with supreme contempt and indifference.

And yet this takes place in a country by no means ungrateful to her great men or humbler intellectual labourers in other fields. The names of the founders of the Republic, of the signers of the Declaration of Independence, of the generals, admirals, and statesmen who have adorned its history are as much honoured here as those of the corresponding men of other countries. American authors do not reap their full pecuniary reward, chiefly because of the absence of an international copyright, but receive their full share of honour at all events. American painters, sculptors, and musicians have no cause to complain of want of appreciation by their countrymen, nor will either the incomes earned by or the consideration accorded to the members of the legal and medical professions suffer by comparison with the same in England.* Architects seem to stand almost alone in the experience of neglect and even contumely in a country where

* Professor Erichsen, one of the most eminent surgeons in England, who has recently visited this country, and lectured on the condition of the medical profession in it, is of opinion that that profession enjoys a higher degree of social status and consideration in the United States than in any other country.

their services ought to be more in request and more highly valued than in any other.

A very little observation and comparison will show that architects are much more extensively employed in the old country than in the new. Scarcely any building is undertaken in the United Kingdom without one. A sensible man there would think as soon of going to law without a lawyer as of building without an architect. In this country, however, nothing is more common than to see large and costly structures erected without any, the business being done or rather usurped by some boss mason or other contractor who succeeds too often in persuading the proprietor that he can do better than any architect, which would certainly be true if his own profit and interest were the only matters to be considered.

The Rev. Dr. Osgood, a well-known and warm friend of the profession, in the address which he gave to the New York Chapter about a year ago, admitted pretty much what I have stated above, when he alluded to there being "trouble between the American public and the architects." And as one of the means he prescribed to remove this trouble was that architects should use their pens more, I will endeavour so to use mine as to trace out some of the causes which bring the profession in this country into disrepute, and by comparison with the older country, to point out some of the means by which its status may be improved.

The chief element in the want of appreciation shown by the American public towards architects is to be found in the ignorance which prevails as to what the proper functions, responsibilities, and remuneration of architects really are or ought to be. A general idea of course prevails that architects "draw plans," but beyond this the most profound ignorance will be found to prevail. If we can only succeed in removing this ignorance, a vast deal will be done towards removing the evils which follow from it.

I have already alluded to the disgracefully keen struggles which take place in England over every public building thrown open to competition; but this after all is only one instance of the over-crowding in every branch of business which prevails there, and proves that at any rate the position of architect to any public building is something worth striving after, and it really is so, because once appointed to that position, the duties, responsibilities, and emoluments are understood and admitted as a matter of course. Here, on the contrary, once a design is selected, the architect has to enter on a series of discussions as to what further he is to do in reference to it; whether he is only to furnish the plans, or whether he is also to superintend, and in what way, and at what rates; if there is to be a superintendent besides the architect, and if so, whether he is to act over or under the architect. If it be settled that the architect is to be paid a commission, and the rate of that be settled also, a third question arises also as to what amount it is to be charged upon; whether upon the whole, half, or two-thirds of the cost of the work. That such questions can and do arise indicates, as above stated, a deplorable amount of ignorance on the part of the building public; but it indicates more: namely, a vast deal of neglect and irregular practice on the part of the profession. It ought surely to be the business of the architects, individually or collectively, to enlighten the public on all these questions; for if not, who else is to do it? A proper code or system of practice is needed, towards which the Institute has certainly made some approach, but this will be of no avail so long as the profession generally do not adhere to it in practice. The functions, powers, responsibilities, and charges of architects need first to be thoroughly understood and agreed on among themselves, next to be made known to the public in every possible way, and thirdly to be fully and honestly acted up to by the profession. When these three conditions are fully complied with, it will be seen whether the public will not accord a larger amount of respect to the profession than ever it has done hitherto.

In considering such a code or system of practice, the profession in this country ought to be possessed of a great advantage in having all the experiences of the old country to guide them. Up to the present it would seem as if this Institute had been very much disposed to follow that example, for I observe the brief scale of charges issued by it agrees in the main with that of the British Institute. It however differs in being much briefer and less definite, the former of which would be an advantage if it did not involve the latter. Brevity is highly desirable if it be not attained at the expense of clearness. Now the scale of charges of the American Institute makes no mention either of a surveyor or superintendent (or clerk of works), thereby ignoring or leaving in doubt two most important points in architectural practice; namely, accurate estimating and proper supervision. Now, my observation during the period referred to above has led me very strongly to form the opinion that the total neglect of one of these points, and the irregular manner in which the other is performed, are among the most powerful causes that have contributed to make the profession at large to enjoy so little of the confidence of the American public; and I therefore propose to consider these subjects in detail more fully further on.

If the American architects could succeed in getting the same rates of charges generally adopted here as in England, the profession ought certainly to be a very lucrative one, for, as already observed, the cost of building is so much greater. To take the examples already quoted, a church or other first-class building for which the architect would receive 1,000*l.* in the old country, he would get \$25,000, or nearly 5,000*l.*, for here. And yet he would have no more to do in one case than in the other. To be sure he would have to pay his assistants a little higher, perhaps twice as much as the same class of men receive in the old country, but this is almost the whole difference. The wonder is, then, that with such a scale of charges apparently in general use, the architectural is not the most lucrative profession in the country. But a little further inquiry will soon show that the attempt to establish the same rate of charges here as in England has not succeeded, and that, as a general thing, no such rates are paid unless on frame or other small buildings, where the outlay would not be much greater than on similar buildings in England. And I think the American public can hardly be blamed for hesitating to pay New York architects four or five times the actual money for the same services as is paid to London men, merely because it amounts to the same rate per cent. And I question whether this high rate being so publicly put forward,

although privately departed from, does not frighten the same public from having anything to say to architects at all, and thereby defeats its own object. Certainly it has been noticed more than once, that the architects who have habitually worked under that rate have done well, but that those who have persisted in adhering to it have done but indifferently or worse. I respectfully suggest, therefore, that unless it is to include more than what is ordinarily included in England, the five per cent. may be too high a rate for an architect's service on such buildings as those referred to, and might possibly, with advantage both to the profession and the public, be reduced.

It is commonly urged in defence of the attempt to set up the same rates of charge here as in England, that the cost of living is so much greater here than there as to justify it. But this is not by any means clear. House-rent, clothing, and a few other items cost more, but the difference is not such as to justify architects in asking so very much more for their services than their English brethren get. The medical and legal professions do not ask four or five times the fees of their British confreres. It need scarcely be observed that the judges, cabinet ministers, and other high officials, get much less than the corresponding functionaries in the old country. But supposing the statement as to the cost of living were admitted, then the means adopted to meet the increased expense are very unfortunate, for the effect, as above pointed out, is greatly to limit and circumscribe the employment of architects, and cause them to realise much less incomes on the whole than are attained by the members of the same profession in the old country.

It may, however, be worth considering whether it is not better to keep to the time-honoured rate, but to make it include, not only all that is included in England, but also some things that in England are considered additional matters, although incidental to an architect's employment. And I am not clear but that this was the idea of the original framers of the American scale. At least, such is the plain meaning of it as it stands. The first clause reads, "For full professional services (including superintendence) five per cent. on the cost of the work." Passing over the possibility of an architect's having to prepare several designs for the same work, for which the English scale specially provides an extra charge, and for which the American one makes no provision, let us inquire what would any intelligent client understand by this? Would not he at any rate understand that the architect was bound to superintend fully? and would not he justly consider that a demand on the part of the architect for a local superintendent, to be paid by the client, in addition to what he pays the architect, was highly unreasonable? And yet I have heard and read loud complaints from American architects because clients will take this view. I think it a great matter of regret that there should be any misunderstanding on such an important subject, and that it issues either in the architects attempting to carry on their works without competent local superintendents, or that the clients will insist on having such, but make a deduction from the architect's fees on that account, and too often transfer the confidence which should be given to the architect to the superintendent instead. In fact, instead of working harmoniously, as do the English architects and their local superintendents, or "clerks of works," as they are called, the American architects and superintendents are commonly to be found arrayed in hostility against each other. And I hope I will be pardoned for saying that I fear the chief blame for this unsatisfactory state of things rests with the profession. For surely the idea that the architects themselves, by making occasional visits, can fully and properly superintend works of any consequence, whether in their immediate neighbourhood or perhaps miles away, is downright preposterous. Most clients regard it as such; and, if there be no other superintendent than the architect, expect, and with reason, to see him at the building every day. Of course the client is disappointed in this expectation, and finds that what he and his architect meant respectively by "full professional services (including superintendence)" were two different things. Unless he is satisfied to have his work scamped, he will insist on a local superintendent forthwith, on account of whom the architect's fees are reduced, and who, feeling that the architect would have done without him if he could, too often begins to do his best to oust the architect and supplant him in the confidence of the employer. This is clearly a most objectionable state of things, and can only be remedied in one or the other of two ways, namely, either by the architects honestly undertaking to do by deputy what they cannot do in person, and providing competent local superintendents, appointed and paid by themselves (which I believe they could well afford to do if they get the five per cent.), or by a clear distinction being drawn between the general superintendence, which the architect can give himself, and the close and constant supervision by a local superintendent, and by the client being at once advised that the first is all that he can expect from his architect, the second he must pay for in addition. This latter is, as is well known, the English system, and is clearly enough stated in the English scale; and if it be thought desirable to have the same adopted here, it should also be stated in the American scale. I doubt very much, however, that the American public at large will ever agree to pay architects five per cent. and pay superintendents in addition; and I would recommend in preference to keep to the existing scale, but act on it in its full meaning, and let the architects of all important works provide competent local superintendents paid by themselves and responsible directly to them. This would go far to gain the confidence of the clients, and reconcile them to the payment of the five per cent., and I am informed has been the practice of the most successful men, both in New York and Boston. Anything almost would be better than to have noble designs murdered in their execution for want of proper supervision, or to have architects ousted from a most important part of their business by the rivalry of hostile superintendents, thereby reducing them to the level of mere draughtsmen.

There can scarcely be a more dangerous rock for the architectural profession to split on than this; for not alone is the superintendence of their buildings likely to be taken out of their hands, but also the selection of contractors, and control of building operations generally. In this respect the practice here contrasts disadvantageously with that of the old country. There the whole business of getting tenders and arranging contracts is done under the architect's direction, it being a settled principle that none

but contractors with whom he is satisfied shall be employed. Here, I regret to observe, selections of the same kind are made without any reference to the architect, and often enough, in consequence, contracts for large works are awarded to scoundrels destitute alike of principle, capital, or credit, from whom the architect may as well expect to get good work as to bring any other clean thing out of an unclean. And it may easily be observed that no matter how little the architect may have had to do with the selection of the contractor, and how honestly he may have endeavoured to compel the proper execution of the work, he is held fully responsible, both legally and otherwise, for whatever failings or defects may be found to exist in it.

(To be continued.)

ROMAN LONDON.

A DISCOVERY of no small importance in relation to the ancient topography of London has been made in Newgate Street. It is a portion of the old London wall, of Roman workmanship. It is partly built upon a long arched passage parallel to it, and apparently of the same date.

These remains have been met with just beside the site of the old City gate, Newgate, removed in 1777, upon the demolition of the houses at the extreme west end of Newgate Street, at its junction with Giltspur Street, where the former road has just been widened—an improvement which, when completed, will be a great boon to the City.

The passage is about 6 feet wide, and arched over along its whole extent with a semicircular barrel vault, formed of two rings of massive cut stone—a green stone similar to that found at Godstone and its locality. This mode of construction, so unusual in mediæval work, points to the earlier date, as does also the fact of the Roman wall, which has in several places the well-known flat bonding bricks, being partly built upon and beside it. There are also traces of massive foundations, also with Roman bricks, east, or on the City side of the wall, indicating the site of a building of large size and strength. The passage extends from the site of the modern Giltspur Street Compter, founded in 1785 and recently pulled down, quite up to Newgate Street, and possibly under it.

Stowe relates the account, now so well known, of the diversion of the old roadway from Aldgate to Ludgate on the rebuilding of old St. Paul's, in Norman times, which, he states, formerly went around that building; and of the formation of Newgate Street and the gate, to meet the requirements of the traffic, and this accounts for the name of the gate. Nevertheless, the question as to whether or not Newgate was one of the original gates of the city has been much discussed, as has been also that of the date of the whole western extension of the city wall. It may be borne in mind that, although there are several portions of this part of the wall extant and others have been met with from time to time, yet none of them have as yet shown traces of Roman work.

This discovery of Roman foundations on the site of Newgate will go far to determine both of these controversies, and may be taken into connection with the traces recorded by Howell of the old Roman Road, the Watling Street, met with at Holborn Valley after the great fire of 1666, in a direct line from Newgate.

For the requirements of the new buildings about to be erected on the site, these remains are being rapidly demolished. Their massive character and the hardness of the mortar render this a work of great labour, and it is being accomplished only by wedges and hammers. Of these interesting remains Mr. E. P. Loftus Brock intends to prepare a more detailed record for the next meeting of the British Archaeological Association.

JOHN BIRNIE PHILIP.

WE are sure that many of our readers will hear of the death of Mr. John Birnie Philip with sincere regret. To those who knew him he seemed a man with many years of life before him; but in spite of his vigorous frame he succumbed, after two days' illness, to an attack of bronchitis, dying on Tuesday last, at the early age of 48. He will probably be best remembered by his bassi-relievi, which form two sides of the podium of the Albert Memorial in Hyde Park, and which comprise nearly ninety figures of eminent artists. These, with the companion relievi of Mr. Armstead, A.R.A., have been viewed with less unfavourable criticism than the larger groups at the angles. When it was heard that this work was to be entrusted to Mr. Philip, we believe there was some dissatisfaction, but the result confirmed the discernment of the architect. He was also the sculptor of the figures which represent Geology, Geometry, Geography, Rhetoric, and Philosophy. He was employed by Sir Gilbert Scott on other works as well, such as the reredos of St. George's Chapel, Windsor, and the Government Offices at Westminster; and it is not many weeks since some statues by him were set up in the exterior of the Home and Colonial Offices in Parliament Street. The massive capitals of the new Blackfriars Bridge were also carved by Mr. Philip. Two public statues in the provinces are from his chisel—viz., Robert Hall in Leicester and Richard Oastler in Bradford, and he had just completed the arrangements for a large statue of Colonel Akroyd for Halifax which was likely to have been his finest work.

Few artists were more widely known; and he was esteemed, not for his ability merely, but for his generous and manly character.

Mr. J. S. Phene, F.S.A., while examining the curious arrangement of barrows at Priddy, on the Mendip Hills (which barrows are arranged in the form of a serpent, pursuing its course, as it were, towards Glastonbury Tor to the south, while to the east another similar form is tending towards the White Horse at Westbury), made a false step on a snow drift and fell into some miners' workings, of which there are many on the Moor. He fell on some sharp stones at the bottom, and reached Wells with much difficulty, where he still remains, at the Mitre Hotel, under medical treatment, though gradually recovering from the result of the accident.

ILLUSTRATIONS.

PROPOSED WELSH PRESBYTERIAN CHURCH, ROATH, CARDIFF.

WE give this week views of the design for this church, by Mr. HENRY C. HARRIS, A.R.I.B.A., architect, Cardiff. The church is designed to afford sitting accommodation for 1,100 adults, but for the present it is proposed to omit the transepts and small vestries at the south end, so as to admit of the existing buildings being retained intact till such time as the additional funds necessary to cover the cost of their re-erection on another portion of the site can be obtained.

Galleries were made a *sine quâ non* in the architect's instructions, and it has been attempted to obtain a little more unity of effect with these than they often have in buildings of the class; where they partake more of the appearance of an after-thought than an important factor in the original design.

The piers are of the smallest size consistent with stability; this, with a careful arrangement of the seats, reduces to an unusually small proportion the number of sittings from which a sight of the pulpit would be cut off.

VILLA AT HORNSEY.

THIS villa has been built on Mr. W. R. PERRY's property at Crouch Hill, Hornsey, on a site overlooking (beyond the village of Hornsey to the north) the Alexandra Palace, the views in this direction being the best. The generally-received aspect for the dining and drawing-room was in this case modified, and these rooms face the north.

The arrangement of the ground and first-floors are explained in the accompanying plans. On the second-floor are two large nurseries, a nursery, china, and linen closet, and two other bedrooms. The walls are faced with Ballingdon red bricks, the roof covered with plain tiles, and ridge tiles, from Mr. COOPER, of Maidenhead. The perspective shows the garden front.

The work was carried out by Messrs. CARTER & SONS and Messrs. ROBERTS, the contract being for 1,840l. Mr. ALFRED W. N. BURDER, of 14 York Chambers, Adelphi, was the architect.

AN ARTIST'S STUDIO.

WE reproduce this illustration from the *Moniteur des Architectes*. The studio was designed for M. H. MURLE, the painter, by M. SOUDÉ.

COMPETITIONS.

UNDER this heading we propose to give each week, or as often as may be necessary, a brief account of the *conditions* of such competitions as may at the time be open to the profession. In doing so we shall point out what conditions have been framed in accordance or at variance with the rules agreed upon at the General Conference of 1872; beyond this it will not be our province to go, our object being to help the reader to ascertain (more than an advertisement can) whether the *conditions* of a particular competition are likely to meet with his views, rather than to furnish a reprint of such details of requirements, &c., as he must, after all, obtain for himself. The numbers refer to the corresponding paragraphs in the General Conference Rules above mentioned.

Warrington Road Schools, Prescott, Lancashire.

The conditions of this competition are somewhat remarkable, and architects ought to study them carefully before they expend time or money in preparing drawings.

1. As to professional advice, we are informed that "if aid be necessary to enable the Board to arrive at a decision satisfactory to themselves, they will avail themselves of professional assistance."

3. Scale and number of drawings are stated, further that there are to be no perspectives.

4. "The amount proposed to be expended by the Board is not to exceed 1,800l." Accommodation, 450 children.

5. Clause (e) of this rule is altered as follows:—"The Board reserve to themselves liberty, in the event of the lowest builder's tender exceeding the architect's estimate by 7½ per cent., to abandon the plans without making any payment or compensation to the architect."

6. No exhibition is promised.

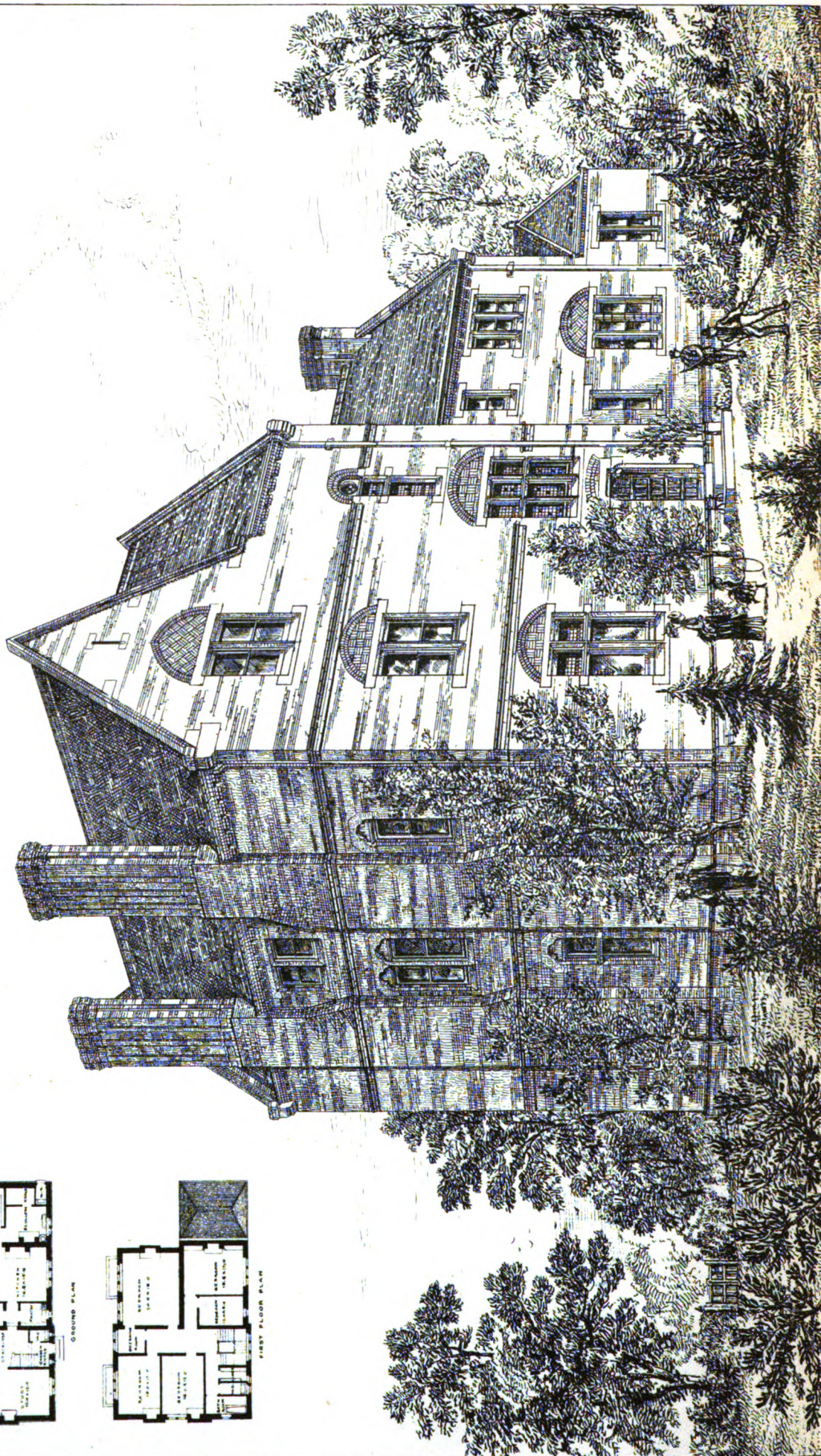
7. "The Board do not bind themselves to accept any plan in its entirety, but they intend that the author of the design which may be most approved shall have the superintendence of the erection; they reserve to themselves, however, the right to deviate from this purpose should they see fit to do so. In such case the Board would purchase the selected plans at the price of 25 guineas the set."

8. Beyond these vague alternatives of "employment" and "25 guineas the set," no premiums are offered.

9. We presume that the acceptance of the 25 guineas is intended to deprive the author of the ownership of the "set," which would become the property of the promoters.

Time, March 12.

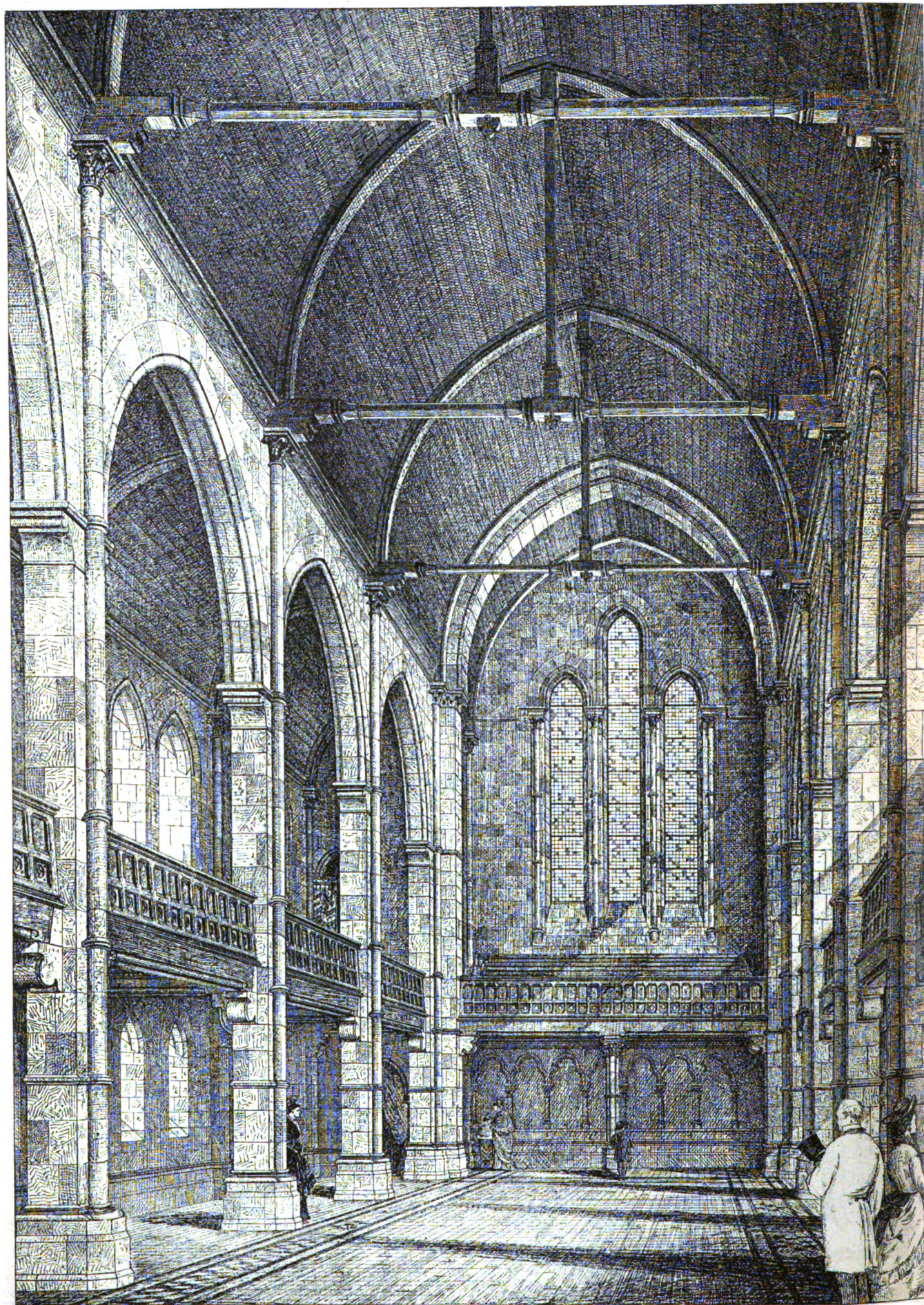




VILLA AT HORNSEY, (ERECTED FOR MR W. R. PERRY.) A. W. N. BURDER, ARCHT.

Printed by W. H. Stanger & Co. London, W.C.





Drawn by W. W. Symonds & Co. London E.C.

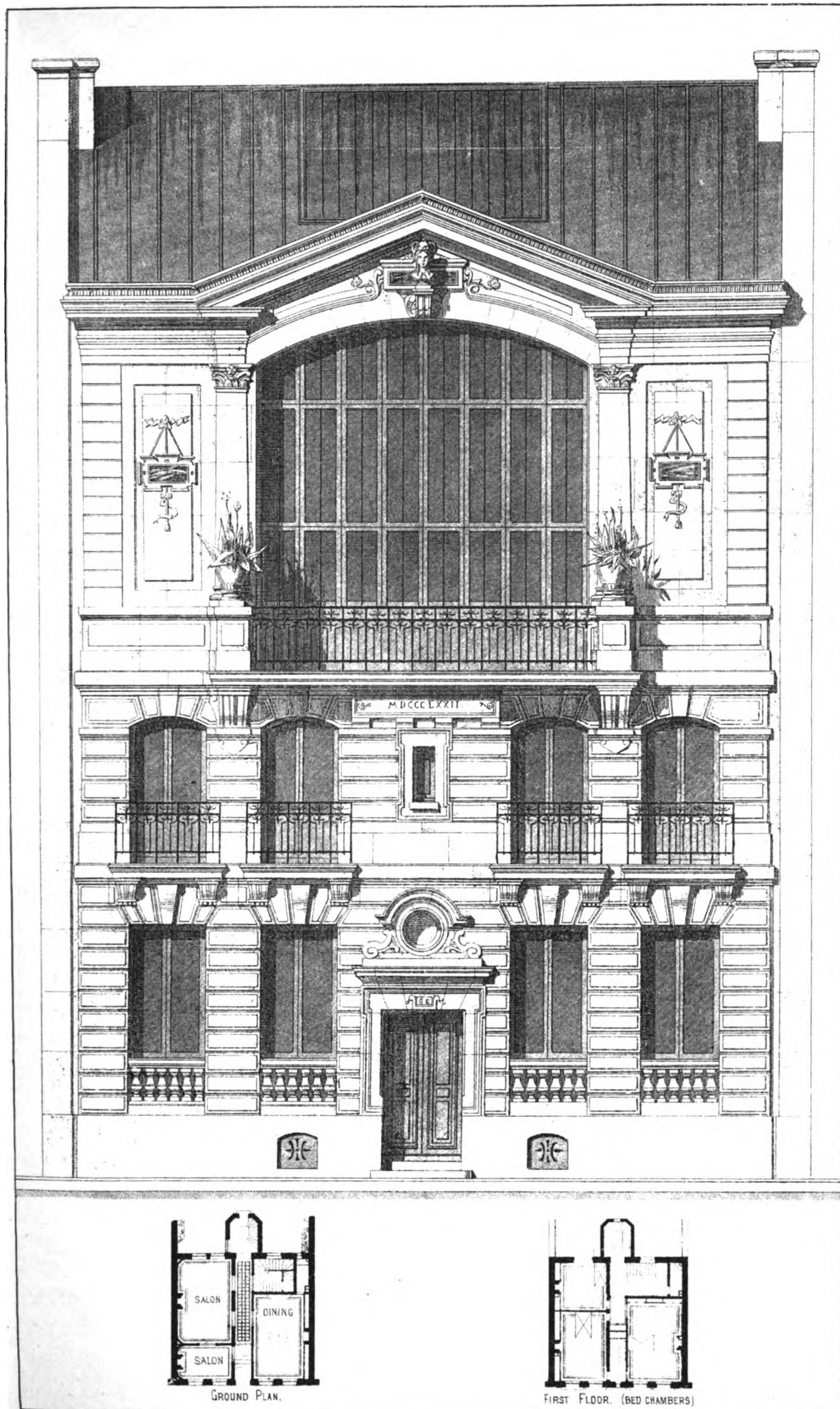
DESIGN FOR PRESBYTERIAN CHURCH, ROATH, CARDIFF.
H. C. HARRIS - ARCHITECT.



Printed by W.W. Springer & Co. London, E.C.

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A PAINTERS STUDIO.
M. SOUDÉE - ARCHITECT.



ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AN ordinary general meeting was held on Monday evening, Sir G. Gilbert Scott, R.A., President, in the chair.—The minutes of the previous meeting having been read and confirmed, reference was made to the gratifying fact that a pension of 200*l.* per annum had been awarded by Her Majesty's Government to Mr. Wood, in acknowledgment of his valuable discoveries at Ephesus.—Mr. John H. Middleton, of Mount Street, Grosvenor Square, was elected an Associate of the Institute.

Professor Willis.

The PRESIDENT said that the sad news had just been received of the death of Professor Willis, and he could not pass over the occurrence without notice. Professor Willis was at once the most learned and most active antiquarian in Gothic architecture. He had a large acquaintance with antiquarianism in relation to other styles, but was especially versed in the subject in its connection with Gothic architecture. In 1835 the Professor published an essay on Gothic architecture, relating chiefly to that of France and Italy, and somewhat later he published a most wonderful account of Canterbury Cathedral—not remarkable so much from an artistic as from an antiquarian and historical point of view. He afterwards contributed year by year essays—almost extempore in their nature—on the archaeological characteristics of different buildings. Unfortunately very few of those essays were published, and Sir Gilbert Scott feared that the Papers of the learned Professor would not be found sufficiently complete to admit of their publication at a future time. Professor Willis was remarkably quick and accurate in his perceptions; and besides the work to which allusion had been made he contributed another on the Cathedral at York, which was published in the papers of the Archaeological Institute. He had also written papers on Winchester Cathedral and Glastonbury Abbey, and the monastic buildings at Canterbury. But these were trifles in comparison with the papers which had not been preserved, and which would fill volumes; and his power of collecting documentary evidence, and the evidence derived from the investigation of the buildings themselves was wonderful; he was, in fact, a most remarkable and highly gifted man.

Mr. T. H. WYATT desired to add his testimony to all that had fallen from the President, and he trusted that an expression of deep regret and condolence on the part of the Institute would be conveyed to the representatives of the deceased gentleman. Professor Willis was indeed a wonderful and most interesting person.

At the suggestion of the President it was resolved that a letter of condolence from the Institute should be addressed to the representatives of Professor Willis.

A Paper was then read by Mr. G. T. ROBINSON, Contributing Visitor, on Certain New or Recently-revived Processes in Decorative Art.

Professional practice (said Mr. Robinson) exhibits in the present day so many and such manifest tendencies to revert to that wholesome habit of the past, by which the architect was not only expected to be the structural edificator, but also the decorator of the building he reared, that some remarks upon certain new or recently-revived processes in decorative art may neither be useless nor unwelcome to the members of the Royal Institute of British Architects.

At all the best epochs of architectural history the conjunction of the building with the decorative power is to be remarked, and its greatest artists are those who have excelled in both. Probably they became the greater in each branch of their art from studying the other; the study of the minor accessories refining the detail of the major building, whilst the architectural severity and precision inculcated by that gave vigour and force to their decorative detail.

My reasons for addressing you to-night, and my apology for so doing, arises from the fact that when engaged in the more general practice of our profession I found great difficulty in learning and following the many ways in which "the ever-whirling wheel of change" spun off the threads of popular thought and popular esteem into the region of decorative art, and the labour that was entailed in seeking to gather up those threads for useful purposes was long and toilsome. I do not say that popular opinion is always a safe guide, but they who would do good for others and to themselves must pay heed to its direction, and he who joins the throng which makes that opinion popular is more likely to turn it into a wise and healthy channel than he who stands aloof and cynically regards it. Especially so is this the case in decorative art, wherein—

Nothing is thought rare
Which is not new and followed: yet we know
That what was worn some twenty years ago
Comes into grace again.

And the difficulty of finding out some new way of doing something old, or some old way by which something new might be produced, turned me into such devious ways, which led to nothing, that I am desirous of rendering to similar searchers the service of a finger post, by pointing out some of the more recent directions in which decorative art is striving to progress, and the processes by which she makes her ways.

Of entirely new processes there is but little to record, but in many of the revivals of old ones, new elements enter. Long ago, a very wise man who knew a good deal about decorative art, and who sought far and wide for its professors, and their processes, declared that there was "nothing new under the sun;" but nevertheless, we have discovered some things since he recorded that, even to him, ancient maxim. In spite of this we find an eloquent living writer mournfully proclaiming that "The Renaissance, the spring-tide of modern life, with its genial freshness, is far behind us. The Creative period is past, the Accumulative has set in; Genius can now do nothing, the day is to dull Industry," but he is not a member of this Institute—not even a contributing visitor, or I am sure he would have acknowledged that there is something more than dull industry

left us in the world, and that accumulative periods are essentially periods of new growth. In Nature this is always so, and the disintegrations of older formations by their very debris create fresh ones. That same process is a general one in all art, and markedly so in that of decoration.

This new growth from old soil is very apparent in the first illustration I shall bring before your notice, namely, painted cloth. When men first hung their wigwags with hides, or the early products of their rude looms, to secure comfort and privacy, their next thought seems to have been to decorate these sheltering accessories, and painted cloths made their appearance long before art and mechanical skill had so far allied themselves as to produce woven tapestries. It would be tedious to search far back into the early use of these decorative accessories, and I shall content myself with noticing the record of them in our own country during the sixteenth and seventeenth centuries. Such notices abound in old wills and inventories, such items as "an hanging of steyned werk in the Hall," or "steyned clothes hanging about the parlour," are of very frequent occurrence, and might be multiplied *ad libitum*. In the accounts of the Corpus Christi Guild at Coventry occurs a charge in the 1 Hen. VIII. for painting part of the Hall, "and for the clothe and peynting of the hynging that hangs at the hydeys" and in St. Mary's Hall, in that very interesting city, was put up in the early part of the reign of Queen Elizabeth, a painted cloth extending from the cornice to the top of the panelled dado, covered with armorial ensigns and mottoed scrolls, and Dr. Bullyne in his quaint "Dialogue bothe pleasaunte and pietifull," published in 1564, in describing what he would consider a model house of his day, introduces us into "a comlie parlour, with faire clothe with pleasaunte borders about the same, with many wise sayings peynted on them."

Painted cloths, however, do not always seem to have been devised by men of the like wit or learning to Sir Thomas More, and some of the old dramatists are severe on the weakness of their poesies.

Who fears a sentence or an old man's saw,
Shall by a painted cloth be kept in awe,

says Shakespeare, in his "Rape of Lucrece," and the unknown author of "The Match at Midnight" makes Bloodhound say that he will have a poesy "which shall savour of a saw," obtaining the derisive answer that "'twill smell of the painted cloth," the which in its new state was by no means savoury.

As the wealth of the country became greater, and the introduction of the products of the loom from foreign countries became more common, these painted cloths passed into desuetude; and so early as 17 Elizabeth the painters of London prayed the Commons to restrict the importation of foreign manufactures by "merchaunts strangers," as thereby their craft was in danger, and that "paynting on cloth is decayed," and henceforth stencil work on the plaster, or afterwards paper-hangings, took their place in the commoner apartments. The painted cloths to which I have referred were principally painted in oil, but distempered cloths were in use for commoner purposes; and that doughty knight, Sir John Falstaff, was of the opinion that "a pretty slight drollery, or the German hunting in water-work, is worth a thousand of those bed-hangings and their fly-blown tapestries." But "waterwork," except upon the stage, and "steyned cloth" have passed away until now, when the change of time is bringing these latter back again. The very process, indeed, seems to have been lost for at least two centuries, and anyone who has tried to paint direct upon a linen cloth has found what a mess he succeeds in making; but recently a M. Guichard, after many experiments, has found out a medium which is at once supple and clear, and for which it is claimed that it resists the effect of sun, water, and air. By it the linen cloth is either printed, stencilled, or painted, with any device and in any colouring; and cloths are now woven so wide as 10 feet, and of course of any length which could ever be required, without a seam. I have just had some made 38 feet long, and am perfectly satisfied with the process as a wall covering. It is easily attached to the walls, can be taken down and replaced without destruction or difficulty, and may be sponged or shaken without danger, and this in London is no slight advantage. Moreover, as a groundwork for hand painting, it offers an excellent opportunity of producing an effective and by no means costly means of decoration. In one of the specimens you will see a figure painted upon this material, which will serve to illustrate this application, in manner at least if not in art, and borders can be obtained so as to margin the cloth or divide it into panels in any fashion deemed desirable. The fabric of most of these specimens is made of unbleached linen, and when it is desired that the fabric should form the groundwork, or partake of a decorative function in the pattern, this is decidedly the best material, and can be obtained in many degrees of texture or pattern of weaving, but when the whole surface is covered with painting, a thick cotton rep is available at a much lower price, and such a specimen I place before you in the frame containing the figure of a signalman freely rendered from one of Dürer's woodcuts.

In this you will perceive that the groundwork or fabric performs little or no part in the decorative design. This painting is of an entirely different character to the other, it being done in a glutinous material, and carefully flocked over afterwards, producing perfect flatness in colour, with some subtle qualities of light, which no mere pigment can obtain. There is no reason why parts of a decorative scheme might not be done in both these manners, and many pleasant effects thereby produced. Of course the question of cost is one which depends entirely on the amount of art employed, but the blocked or stencilled patterns cost from six shillings per yard upwards, and the hand-painted work, according to the fineness of the finish and the value of the artistic labour bestowed upon it.

It seems to me that the revival is an useful one, offering a relief to our flat and hard wall papers, and providing us with the means of giving an individuality to our rooms at no ruinous cost, whilst at the same time it classes the wall decoration with the moveable furniture of the tenant, an important consideration in these nomadic days.

Tapestry, that is the woven picture wrought upon the loom, is really an imitation of these painted cloths, copied with the most jealous care from coloured cartoons, but he who would preach against the use of all imitations and condemn tapestry on this account would not be very much

regarded, nor would he be very right. On the next subject I bring before you I am prepared to find a divergence of opinion on this very question of imitation, the most casuistic and subtle of all questions with which a decorative architect has to deal; the most prohibitoric latitude being accepted in some cases, whilst the sternest puritanism is enforced in others.

Staining woods of a different colour to that which nature has given them has never seemed to me a greater sin against truth than dying wools, though to many this gnat is irritating in the throat. Yet in the best days of the Renaissance, stained woods, either homogeneously tinted, or shaded, or partly coloured, entered largely into the decorative furniture and joinery designed by some of the greatest and most graceful artists of that great and graceful period. The process to which I would draw your attention is one bearing the excessively unarchitecturally word-built title of *Xylotechnigraphy*. Difficult as is its name the process is in principle exceedingly simple, and I quote from the specification of the patent filed by Mr. A. F. Brophy, its inventor:—"In order to stain wood in various colours, according to any suitable design, leaving, if desired, parts of the wood unstained, so as to obtain an imitation of inlay, I proceed," says he, "as follows: I first apply a varnish or solution which will fill the pores of the wood, and exclude the staining liquid from such parts of the surface as are to remain unstained, then when the varnish or solution is dry, I apply over the whole surface the lightest stain I intend to use; this stain being dry I again apply the varnish, or stopping, coating with it such parts of the surface as I desire to retain of a colour corresponding to the lightest stain; and so I proceed until the desired effect is obtained, the last stain applied being usually black or a very dark stain. The surface having been cleared off, may, if desired, be varnished or polished all over, or it may remain as it is left by the last staining process."

It is, in fact, an analogous procedure to that known to etchers "as stopping out and biting in," the various coloured stains taking the place of the acid. Much care is, however, required in treating the various woods and in adjusting the stain and varnish to their absorbent or non-absorbent qualities, and like many other things excessively simple in description, it requires a great deal of technical practice to ensure a good result. To ceilings, doors, dados in our private houses, to partitions and fittings of our banks and commercial offices, this process is, I conceive, exceedingly applicable, and to our larger and less movable pieces of furniture it is not misapplied, though I confess to a lurking dislike to it in those lesser articles to which true inlay, by reason of their smaller process, seems more aesthetically appropriate.

An analogous process has lately been applied to marble in Belgium, by which this material is rendered susceptible of polychromatic decoration. Nature, it is true, has been very bounteous in her display of colour in this material, yet the cost of cutting it and inlaying it has induced many attempts to produce the effect of inlay by an easier process. In Siena, and in many of the churches of Sicily, I have seen various attempts made to lessen the labour of inlay by means of stains, and I exhibit here some attempts to revive or recreate this process. Few materials are less used amongst us than marble, and yet, in the whole range of nature's bounties, there is, perhaps, none more beautiful or more permanent in colour for internal use. The great drawback has been the cost of working it, and any process which will give us a variety of effect on a plain surface is a great boon. Our dark London halls and well-hole staircases demand some reflective surfaces; our murky atmosphere requires something which may be washed without injury, and in this process we have the undeveloped germs of a great accessory. By it the cheaper monotonous marbles, such as "Sicilian," and the self-coloured limestones found in our own country and in France, may be made the groundwork for a decoration at once permanent and pleasing, and not unduly costly. It has been applied to pavements, and I have laid down a specimen of it as a test. Of course it produces the effect of the *pavimenta sectilia* at a very much smaller cost, but the question yet to be proved is whether the stain does penetrate sufficiently into the body of the marble as to wear well enough for pavements; for wall decoration there is no doubt of its durability, and the possibility of now obtaining real mosaic pavements of marble at a comparatively moderate cost, provides us with a better addition to our decorative repertory.

Of late years, throughout Italy, France and Belgium, there has been a great revival of the very ancient art of mosaic, and as a wall decoration in vitreous pastes it has been much used in our own country, but I think I may claim for myself the first introduction of the marble "opus incertum," into this country as an available article of commerce. Many attempts, of course, have been made at all times, but the great difficulty was to obtain a really compact floor of marble tesserae at a small cost. Those floors in which the tesserae are firstly laid on slabs, and then fitted together like tiles, are open to many objections. The joints are always visible, very often the tile or section becomes loose, and a repetitive design is almost enforced upon the work by the very nature of its manufacture. In the true mosaic a bed of mortar and finely pulverised brick is spread and rolled level to form a basis, and on this the tesserae are imposed and rammed down hard into the body of the cement, thus forming the whole into one solid concrete slab. When this has become sufficiently set, the surface is rubbed down to one even face, by means of a heavy gritstone rubber, and then the work may be oiled, or friction polished, to any degree of lustre desired. You have thus a homogeneous floor, solid and silent, and affording a pleasant foothold; its design can be accommodated to any space or style, and as there is no mechanical necessity to reproduce the same design, each pavement becomes an individual work. Its durability is incontestable.

As to its cost. It may be considered as being about twice that of tiles—a good plain floor and margin being laid at about twenty shillings per square yard, and from this price it is easy to ascend; but a floor fairly executed with ornamental borders and centres can be obtained for thirty-five or forty shillings per yard—of course depending on the proportion the surface of the plain ground-work bears to the ornamental details, and also upon the intricacy of these.

In conclusion Mr. Robinson mentioned the ceramic processes as presenting almost endless applications to internal decoration, these being much more largely pressed into service on the continent than they are here; and

he observed that visitors to the Industrial Exhibition at Paris last year could not fail to have been struck with the beauty of the faïences of MM. Deck, Parvillée, and other French potters.

Mr. ARCHERSON said he did not know how he could sufficiently thank Mr. Robinson for his extremely interesting Paper, and the only regret he experienced arose from the extensive nature of the subject brought forward, which rendered it impossible for anyone unacquainted with it to offer any remarks likely to interest the meeting. Having been himself engaged a little in the work of decoration, he hailed with satisfaction many of the means by which some of the most costly forms of decoration might be reproduced, particularly that of staining in wood. Probably many of the members had used inlay work in decoration, but it was exceedingly costly. In the decoration of a very plain dado the cost would be something like a pound per foot super, and this question of course became very important—even so far as a single room was concerned—unless the client happened to be a millionaire. Although the process suggested by Mr. Robinson was not equal to inlay, yet it possessed the advantage of variety in colour and tints which it was impossible to produce in inlay. With regard to marble as a decorative material it was no doubt exceedingly valuable, but its expense was so great as to preclude its general use. The use of the painted cloths in large rooms and at a considerable distance above the eye, would be very effective. The great objection to the use of tapestry consisted in its furnishing such a terrible harbour for dust.

Mr. CRACE considered that the various processes which Mr. Robinson had brought to their notice were likely to be serviceable to the profession. The specimens exhibited of painted cloth were very interesting, and would be found in many instances of great service, especially for country houses, affording an effective and harmonious means of decoration especially on large walls. The staining of woods by the various processes which had been described was also likely to be useful, but the process of staining woods in a variety of tints might be said to have been in use for centuries. It was a question how far artistic attempts in stained wood should be carried, as any want of refinement should be avoided. His impression was that it was desirable to limit the imitative processes to very simple treatments, for when applied with undue elaboration the work was likely to become meretricious. He had no acquaintance with the stained marble processes, but the objection to marble inlays in tiles was the extent to which, in London, they absorbed the dirt, so as to render all colour indistinguishable. The specimens of pottery exhibited were most valuable, and in Paris processes were used which would be of considerable advantage to English potters, the skill of M. Deck being unrivalled. There was also a beautiful oriental blue of which M. Deck had the secret, and which they might almost envy. The cost of using marble in decoration presented a serious difficulty even to people with large fortunes, so that they must look to the potters to supplement nature with their products. He had great pleasure in proposing a vote of thanks to Mr. Robinson.

Mr. W. WHITE desired to second the proposal, and to add the expression of his acknowledgments to Mr. Robinson for bringing these decorative processes to their notice. He agreed with Mr. Crace that the process of staining wood was likely to be of great use, but there was a danger in the abuse of the process which they ought to guard against. The price of the hangings, namely, 3s. 6d. a yard, appeared rather costly. The process of wood tapestry, which had only recently come to his notice, seemed a marvellous invention; it was not much thicker than paper mounted on canvas, the canvas being mounted on deal or plaster; and it was impossible to tell it from a board, all the effect of wood panelling being produced at about one-third or one-fourth the cost. He had not satisfied himself as to the legitimacy of its use, but might mention that he saw some that had been up five or six years, and it seemed to have worn exceedingly well.

Mr. R. PHÉNÉ SPIERS observed that the subject brought before them would be followed, on the 19th inst., in a Paper that Mr. Sparkes, Master of the Lambeth School of Art, had promised to read before the Architectural Association on the development of stoneware and other fictile materials for architectural purposes. Last year a Paper read by Mr. Sparkes at the Society of Arts was very interesting, and contained a variety of information.* Mr. Spiers mentioned that Mr. Martin, a sculptor, had produced some most artistic jugs and vases, which were unrivalled in work and execution; and an English workman, who started some time ago, had produced work somewhat similar to that of M. Deck.

Mr. ARCHERSON observed that he was far from approving of the use of vitrified materials. The expense of the ordinary white tile, even when used simply for light, was very great. It seemed that tiles, when exposed to wet and cold, were liable to disintegration, and in some cases the tiling came down; but if a good vitrifying material could be obtained, why should it not be applied to the whole of the surface? He saw no reason why houses should not be artistically decorated by means of coloured tiles or coloured terra cotta. It was impossible to compare the Italian climate with our own in regard to its effect upon materials, the quantity of sulphuric acid in the atmosphere of London being so great as to be highly destructive.

After some remarks from Mr. Eastlake,

Mr. MORRIS said that he had exhibited some specimens of leather decoration, as being calculated to revive reminiscences with regard to the application of leather to ornamental purposes at about the fourteenth or fifteenth century. The specimens exhibited were excellent examples of what he believed had been done in the way of leather ornamentation both in England and France in those centuries, and reached a high pitch of excellence; and there was evidence that the leather tradition had never died out in France.

Mr. CRACE observed that the specimens of leather decoration on the walls were produced in France thirty-five or forty years ago.

* See ARCHITECT, vol. xi. p. 255.

Mr. JENNINGS said his experience with regard to tiles differed from that of Mr. Aitchison, for he believed that when really good tiles were used they would not fail; but three qualities of tiles were in the market. He did not think there would be any difficulty in obtaining a vitrified surface so as to stand any weather, and it only resolved itself into a question of expense.

The PRESIDENT, in putting the vote to the meeting, said he did not desire to add much to the discussion, but would venture to express his great pleasure in finding a number of new modes of decoration and old modes revived brought before them. Those only who had thought of the processes carefully could offer any opinion upon them, and he begged to be excused from saying that he had any experience of them. In imitations of inlaid woodwork there was a great want of brightness, at a distance being utterly devoid of brilliancy. The introduction of stains would add what was required to that style of work without depriving it of the character of being inlaid. There was, however, a danger in excessive decoration, and the cheapening process had a tendency to make all things common and unclean. These processes, unless very judiciously applied, had a vulgarising effect, and it was a curious thing, but nevertheless true, that the idea of working merely for the sake of cheapness was ruinous to art. After all, he thought there was no reason to regret that good things should be expensive.

The vote having been duly carried,

Mr. ROBINSON, in acknowledging the same, said his object had been to illustrate processes and not the design, and he hoped that every architect, when he used any process, would make his own design and insist on having it carried out. He quite agreed that the danger of excessive ornamentation by means of cheap processes ought to be guarded against. The wood tapestry alluded to by Mr. White was introduced by Americans some fourteen or fifteen years ago, and he remembered using it in the days of his youth in a church that he built at Huddersfield. It lasted unusually well, and was cheap and effective. He shared in the regret expressed by Mr. Eastlake that we were unable to get ceramics reproduced here at the price of foreign ones. Respecting the effect of dirt upon the hangings, he might say that they were washable—that is, they could be sponged over, though not taken down and sent to the laundress. The stamped leathers were still being made—some very beautiful things being produced in France and Holland; but as a decorative material leather was very expensive.

The PRESIDENT announced that at the next meeting, on the 15th inst., the subject of the award by the Council to Mr. Edmund Sharpe of the Royal Gold Medal would be taken into consideration.

FORTHCOMING PICTURES.

THE London correspondent of the *Manchester Guardian* has been able to obtain the following additional information respecting the paintings in hand for the next exhibition of the Royal Academy:—Amongst pictures so far completed as to render it safe to say that they will be sent for approval I may mention, in addition to a list already given, Mr. Alma Tadema's *Sculpture Gallery*, a companion to the *Picture Gallery*, exhibited last year. Like it, this is a commission from M. Gambart, the well-known picture dealer and publisher of engravings, and these two will form a part of the decoration of the principal salon in his villa near Nice. It will be remembered that in the former the principal personages were portraits of M. Gambart and the members of his family. In this latter one Mr. Alma Tadema represents himself and his relatives in a sculpture gallery of Roman times, and whilst a slave turns round for admiration a newly-acquired statue, the owner points out its merits and descants upon its beauties to its eager welcomers. He will also send the picture entitled *The Water Pots*, exhibited, I believe, last year at Liverpool, either to the Academy or the "Salon" in Paris, which opens about the same time. Of this subject he has two renderings, varying somewhat; but it is not yet quite certain which of the two will appear in London.

Mr. Erskine Nicol has, I am glad to say, recovered his health, and with it renewed vigour in painting, and will exhibit three pictures, each of them of far greater importance than anything he has latterly been able to complete. One is a reminiscence of his health-seeking sojourn in the south, and represents the interior of one of those many storehouses of wine which stand the shores of the Riviera of Mentone; and into this a country blousé-clad *connoisseur* enters to test and taste "the new vintage." The critical expression of the would-be purchaser, and the interrogatory look of the would-be vendor, are admirably given, whilst in point of colour it is much more powerful than anything Mr. Nicol has of late produced. His two other subjects are of Scotch origin, and in the larger of these a grand dame enforces a moral lesson on an erring grandson. The poor youth has been tempted by the fruit of that forbidden tree—

Whose mortal taste

Brought death into the world and all our woes;

and, like Eve, has robbed an orchard. Taxed with this crime, and suffering from stomach-ache, he stands in dogged obstinacy and pain before the inquisitor, who, knowing that there is within him that which brings its own punishment, contents herself with enforcing that moral maxim—"Always tell the truth." Her serious air, as with upraised hand she thus inculcates the wholesome practice of a virtue she eminently possesses, is an admirable bit of painting; and she must be at least a cousin of that other old lady who forms the subject of his third picture. In this, dressed in her best, one hand holding up her umbrella, the other clutching fast the two things she holds most dear in life—her Bible and her cottage key—an old lady descends, midst fast-falling rain, a steep and streaming hillside as she comes down to kirk, and to keep "the Sabbath day." For the rain she cares naught; a sense of duty and a pair of very stout legs uphold her in her path, and not even the thought of spoiling her fine Paisley shawl disturbs her mind.

Mr. Frederick Goodall will send a large and important work, in which from over a long sweep of partly barren hills Rachel comes with her father's sheep. Onward in front she steps, the parti-coloured fleecy ones following her trustingly, and the little lambkins gambolling with quaint antics at her very feet. She is such a bright young maiden that Jacob was warranted in his bargain with Laban; and as for the sheep they are portraits of a flock from those very hillsides which Mr. Goodall has imported into this country. Paint them in their native land he dares not. The evil eye of the Giasour would rest blightingly upon them, and the faithful shepherds, who do not nowadays much resemble Rachel, would prefer to take his life rather than their flock should suffer. This will not be Mr. Goodall's sole contribution, for he will also send a fine stately young Cairene fruit girl, who with grace untrammelled by much drapery bears aloft a gorgeous mass of Oriental fruit. Herr Otto Weber will send several animal paintings, one of them a commission from Her Majesty, and being the portraits of two of her canine pets—Doughty and Carlisle—one of whom, enthroned in Her Majesty's own chair, repulses with a snarl full of moral force her aspiring companion.

Mr. Thomas Faed will send one small picture, entitled *Early in the Morning*, and representing a Scotch lassie at her toilet; but as he is one of the Hanging Committee this year, he, with a self-abnegation not often seen, declines to occupy the line with his own production. Josef Israels is, I hear, somewhat in doubt whether to send a very large work containing some five-and-twenty figures here or to Paris. Both markets are so good that he cannot yet make up his mind which to lose. The work is a coast scene at Scheveningen, and is reported to be by far the finest work he has done; but as I have not seen it I can only state the opinion of others. This remark also applies to Mr. Keeley Halswelle's big picture of *Bringing Home the Bride*, which as yet is in Rome, and is enthusiastically spoken of there. Mr. Oulless will be again in great force with his portraits, his principal one being that of a gentleman well known in Manchester—Mr. H. D. Pochin. In Mr. Oulless's picture he is engaged in that useful and profitable research into practical chemistry which in these days leads to the discovery of the dream of the old alchemist, the philosopher's stone, the transmuter of all baser substances into gold. This same artist will give us yet another portrait of Mr. H. S. Marks, R.A., who has blossomed annually on the walls for some years past; and the strongly marked and very suggestive features of Dr. Darwin, if he can limn them in time, will form a very attractive piece of portraiture this year. I did not mention the subject of Mr. Heywood Hardy's comedy of animal life when a short while since I referred to his more finished tragedy; but as there is now no doubt of this being finished in time, I may venture to reveal it. Its title is *The Disputed Toll*, and the humour of the piece consists in the bewilderment of a turnpike man at the advent of an elephant, the pioneer of a peripatetic menagerie. How to assess the animal is his puzzle. It is not a horse, a mule, or an ass; neither can he class it in the category of cattle. In doubt, he scans over the toll-board, and in triumph does the elephant's keeper point to it. Meanwhile the subject of the dispute gravely wags his huge head, and regards with humorous curiosity the small terrier who so vigorously and noisily disputes his passage. It may interest your readers to know that the elephant is no other than the very fine one at Belle Vue, Mr. Hardy having singled him out as the finest model amongst his elephantine acquaintances. Mr. J. Morgan has a work which will add to his increasing reputation, entitled *The Emigrants*, who just turn to take one last look on their English home ere they cross those hills which lead to the sea; and Mr. T. Brooks will send a *genre* picture of most tender feeling, in which a young girl—in that doubting time which young girls are subject to—seeks her "confidential adviser."

THE SOCIETY OF ENGINEERS.

At a meeting of the Society of Engineers, held on Monday evening, in the Society's Hall, Westminster Chambers, Victoria Street, the President, Mr. J. H. Adams, in the chair, a Paper was read by Mr. J. W. Wilson, Jun., Vice-President, of the Crystal Palace Engineering School, on the

Construction of Modern Piers.

The importance of the subject was shown by the rapid growth of watering places, and the consequent necessity for the erection of piers. A number of diagrams were exhibited, illustrating the various methods of construction which have been adopted. Mr. Wilson offered a few remarks upon the subject of timber jetties and piers which are now rapidly falling into disuse, mainly in consequence of the perishable nature of the material employed, subject as it is to the ravages of the *Teredo Vitis* amongst other enemies. The author gave a diagram of the structure of the mollusc, showing that the mode of boring has not been settled by modern research. No really satisfactory and economical plan for the preservation of timber in water having yet been found, the author next proceeded to notice the introduction of cast iron, and subsequently of wrought iron, in the sub-structure of piers, showing that the modern requisite was maximum stability, combined with minimum dimensions. He traced the development of the iron pile and column from the first rude form to the present improved shape, exemplifying several different varieties, the special forms of Mr. Dixon, Mr. Dowson, and Mr. Wilson, amongst others. Mention was also made of Mr. Brunlees' admirable method of sinking in sand; and of the wrought-iron pier at Clevedon. The author then illustrated twelve modern piers, giving, amongst other particulars, the general dimensions, and total cost, price per foot super, and per foot forward of each, affording some interesting and valuable information on the subject of comparative costs. In conclusion he gave a description of the plan adopted by Mr. Abbott, of Bideford, in erecting the pier at Westward Ho! on a rocky and stormy shore, and in the face of great difficulties, the sinking of the piles for the work especially being of a kind in which experience affords no guide by reference to former parallel examples. Reference was also made to the bending of the strong bracing T irons of the structure by the sheer force of the waves. The author concluded by a warm eulogy upon the contractor's courage and perseverance in undertaking and carrying to a successful issue a work to which he was unaccustomed.

THE EXETER REREDOS CASE.

THE following is the full text of as much of the judgment of the Lords of the Judicial Committee of Privy Council as refers to the question of the legality of sculpture and other decoration in churches.

At the commencement of the Reformation attention was directed to the numerous representations in churches, either by sculpture or painting, or both, of those who were venerated either as divine persons or as saints of the Church, and to the outward acts of worship or honour paid to these representations or images. In the first year of Edward VI. (1547) injunctions were issued to the clergy and laity by the King, with the advice of the Protector and the council, purporting to be in continuation of like injunctions issued by Henry VIII., which, amongst other things denounced as tending to idolatry and superstition, "the offering of money, candles, or tapers to relics or images, or kissing or licking of the same." And the clergy were directed to take down and destroy "such images as they know to have been so abused with pilgrimages or offerings of anything made thereunto, or shall be hereafter censured unto," and to suffer thenceforth "no torches or candles, tapers nor images of wax to be set before any image or picture," but only two lights upon the high altar. . . . admonishing their parishioners that images serve for no other purpose but to be a remembrance whereby men may be admonished of the holy lives and conversations of those that the said images do represent; which images, if they do abuse for any other intent, they commit idolatry in the same.

By the 28th of these injunctions the clergy are ordered "to take away, utterly extinct, and destroy all shrines, tables, candlesticks, trindles, or rolls of wax, pictures, paintings, and all other monuments of feigned miracles, pilgrimages, idolatry, and superstition, so that there remain no memory of the same in walls, glass windows, or elsewhere within their churches or houses." The execution of these injunctions was intrusted to the Ordinary, and articles were framed to be inquired of in the King's visitation, one of which inquired, "Whether there do remain not taken down in your churches, chapels, or elsewhere, any misused images with pilgrimages, and whether do remain, not defaced and destroyed, any shrines, coverings of shrines, or any other monument of idolatry, superstition, and hypocrisy."

A question has been raised as to the authority under which these injunctions were issued; whether, under the statute 31 Henry VIII., c. 8, giving to the King's proclamations the force of law, or by virtue of the Act of Supremacy. The learned judge in the court below seems to treat the injunction as a proclamation under the statute, which statute was soon afterwards repealed; but whether it was so or not appears to their lordships to be an inquiry not material to the present issue, for the reasons to be afterwards mentioned.

The next document relied upon by the appellant is a Latin letter, headed "Mandatum ad amovendas et delendas imagines" of Archbishop Cranmer to the Bishop of London, dated February 24, 1547, which recites (in English) letters missive (purporting to have been received by the Archbishop), signed by certain Lords of the Council, and containing the following passage:—

After our right hartye recommendations to your Lordship, where now of late in the king's majestie's visitation amongst other goodlye injunctions commanded to be generally observed througho all partes of this his highnes realme, one was set forth, for the taking downe of all such images as had at any tyme been abused with pilgrimages, offerings, or censings; albeit that this said injunction hath in many partes of the realme ben wel and quyetlye obeyed and executed, yet in many other places muche stryfe and contentyon hath ryssen and dayly ryseth, and more and more encrease, about the execution of the same, some men beyng so supertytyous or rather wyllfull, as they wold by their good wylls retayne all such images styll, although they have bene mooste manifestlye abused, and in some places also the images which by the saide injunctions were taken downe, be now restored and set up agayne, and almoste in every place ys contentyon for images, whether they have been abused or not; and whyles these men go about on both sides contentyously to obtayne their myndes, contending whether this or that image hath been offered unto, kyssed, censured, or otherwise abused, parties have in some places been taken in suche sorte, as further inconvenience is very like to ensue yf remedie be not provided in tyme; considering therefore that almoste in no places of this realme ys any sure quyetnes, but where all images be hoolly taken awaye and pulled downe already, to the intent that all contentyon in everye part of this realme for this matter may be clerly taken awaye, and that the lyvely images of Chyeste shulde not contende for the deade images, which be thyngs not necessary and without whiche the churches of Christ contynued most goodlye many yeres; We have thought good to signify unto you that his highnes pleasure, with th' advyse and consent of us the lord protectour and the reste of the counsell, ys, that immediately upon the sight hereof, with as convenyent diligence as you maye, you shall not onely give ordre that all the images remaynyng in any church or chappell within your diocese be removed and taken away, but also by your letters signifiye unto the reste of the bishopes within your province his highnes pleasure for the lyke ordre to be given by them and every of them within their severall dioceses; and in th' execution thereof we requyre both you and the reste of the bishopes aforesaid to use suche foresight as the same may be quyetlye donne with as good satisfaction of the people as may be.

The Archbishop then directs the Bishop to proceed accordingly, and articles appear to have been framed to be inquired of in the visitation of the diocese of London; one of which is framed in the very words of the 28th of the King's injunctions, so far as regards images.

Whatever may have been the legal effect of this mandate, it may be assumed that it was sent under the circumstances stated, and in consequence of the letter set forth as having been sent to the Archbishop from the Lords of the Council.

It appears plain to their lordships that the injunctions were directed (3rd and 28th) to the removal or destruction of such images only "as had at any time been abused" by superstitious observances; but the letter refers to the difficulty of distinguishing them from others, and to the pretext made for retaining some that had been "manifestly abused" by reason of their alleged exemption from abuse. Accordingly, it is directed that, in order to make sure of attaining the original purpose, all the remaining images should be then removed.

This order, or letter, then of the King's Council, explained as it is in its objects and intentions on the face of the document itself, appears to their lordships to amount to no more than an administrative act or step taken at the time, for the time, and dictated by the necessities peculiar to the time. It did not contain, nor profess to contain, the enunciation of any general law of a permanent character with respect to images. It, no doubt, proceeded on the implied assertion that the worship or abuse of images was contrary to the true doctrine of the Church, then at the commencement of its Reformation. But it did not involve all images in a general condemnation, even by implication, for it distinguished between those which had been abused and those which had not, so far as condemnation went, and ordered the removal of all, whether abused or not, for the sake of peace, and for the purpose of ensuring obedience to the former orders. Far from denouncing dead images as things unlawful, this document speaks of them "as things not necessary."

The act of the 3rd and 4th Edward VI., intituled "An Act for the Abolishing and Putting away divers Books and Images," enacts, by the 1st section, that all books (enumerating many) heretofore used for service of the Church, written or printed in the English or Latin tongues, other than such as are or shall be set forth by the King's Majesty, shall be by authority of this present act clearly and utterly abolished, extinguished, and forbidden for ever to be used or kept in this realm or elsewhere within any of the King's dominions.

The 2nd section enacts that, if any person that then had, or thereafter should have, in his custody any such books or images of stone, timber, alabaster, or earth, graven, carved, or painted, which heretofore have been taken out of any church or chapel, or yet stand in any church or chapel, and do not before the last day of June next ensuing deface and destroy, or cause to be defaced and destroyed, the same images and every of them, "and do not deliver up the books there mentioned in the manner and for the purpose of their destruction therein mentioned, he shall, for every book retained in his hands, incur such penalties as in the Act mentioned." The careless wording of the Act, which omits all penalty with reference to images, induces a suspicion that the introduction of images into the Act was an after thought; but, be this as it may, this Act would imply the necessity of all persons defacing or destroying or delivering up all images which had already been, or might afterwards be, removed out of churches, and probably also the obligation of removing those then remaining in churches, whether abused or not, except in cases falling within the exception of the 6th section of the Act, which provides that the Act shall not extend "to any image or picture on any tomb in any church or chapel or churchyard only for a monument of any king, prince, or nobleman, or other dead person, which hath not been commonly reputed and taken for a saint; but that such pictures and images may continue in the like manner and form as if the Act had never been had or made."

The exception itself shows the generality in all other respects of the enactment as embracing all images, though it is remarkable that the excepted cases are referred to as occurring in any church or churchyard, whilst the rest of the statute appears to be confined to images contained in, or removed from, the inside of churches or chapels.

This statute was repealed by 1 Mary, sect. 2, c. 2; but that statute was in its turn repealed by 1 James I., c. 25, sect. 48, and the statute of Edward was thereby revived. The Act of James I. is itself repealed by the 26 and 27 Vic., c. 125. But an express section of that Act provides that, where any Act thereby repealed had the operation of reviving any former Act, such reviver shall not be affected. The Act of Edward VI., therefore, remains unrepealed.

It is in this state of circumstances that their lordships deem it unnecessary to consider by what authority the Royal injunctions and the Archbishop's mandate may have been originally issued.

Their lordships concur in the opinion expressed by this tribunal in "Westerton v. Liddell," and cited by the learned judge in the court below—viz., that the Act "related to the destruction of images already ordered to be removed, but which either had not been removed, or, having been so, were still retained for private devotion and worship." It may be regarded as a recognition by the Legislature of the validity of these orders (though not expressly referred to), and of the obligation of obedience to them, but it does not go further; and, as with the mandate above referred to, so with this statute, it appears to their lordships that the efficacy of the Act of Edward was spent upon the definite purpose to which it was directed, and that the Legislature did not thereby make, or intend to make, provision in respect of the subsequent use or abuse of any other images.

Up to this time then—viz., up to and including the statute of Edward VI., the case as to "images" stands thus:—The King's injunctions in the first year of his reign condemned several superstitious practices with reference to images, such as pilgrimages to particular images, offerings made to them of any kind, kissing or licking, or censuring the same, and directed all shrines, pictures, paintings, and other monuments of feigned miracles, pilgrimages, idolatry, and superstitions to be destroyed by the incumbent, so that there remain "no memory of the same in walls, glass windows, or elsewhere within the churches or houses of their parishioners." The Metropolitan then communicated to the Bishop of London a letter received by him from the Privy Council, with reference apparently to what had been done under the injunctions, and the difficulty of distinguishing images which had been abused from those which had not, which letter directs a total removal and destruction of all images. This is followed by the statute, and so matters appear to have rested till the reign of Mary, when the Act of Edward was repealed, and the images, or some of them, were probably restored.

It is remarkable that nothing was done by Elizabeth with reference to the revival of the Act of Edward, but in the first year of her reign (1559) injunctions were issued by her, the 23rd of which directed that the clergy should take away, utterly extinct, and destroy all shrines . . . pictures, paintings, and all other monuments of feigned miracles, pilgrimages, idolatry, and superstition, so that there remain no memory of the same in glass windows or elsewhere within their churches and houses; and articles, on the visitation of the Queen, were issued, founded on these injunctions, the 45th of which inquired whether the clergy knew any that

kept in their houses any undefaced images, tables, pictures, paintings, or other monuments of feigned and false miracles and do adore them, and specially such as have been set up in churches, chapels, and oratories.

In the next year the Queen put forth the following proclamation:—

Elizabeth.—The Queen's Majesty understanding that by means of sundry people, partly ignorant, partly malicious or covetous, there hath been of late years spoiled and broken certain ancient monuments, some of metal, some of stone, which were erected up as well in churches as in other public places within this realm, only to show a memory to posterity of the persons there buried, or that had been benefactors to the buildings or dotations of the same churches or public places, and not to nourish any kind of superstition, by which means not only the churches and places remain at this present day spoiled, broken, and ruined, to the offence of all noble and gentle hearts, and the extinguishing of the honourable and good memory of sundry virtuous and noble persons deceased, but also the true understanding of divers persons in this realm (who have descended of the blood of the same persons deceased) is thereby so darkened, as the true course of their inheritance may be hereafter interrupted, contrary to justice; besides many other offences that hereof do ensue to the slander of such as either give or had charge in times past, only to deface monuments of idolatry and false feigned images in churches and abbeys; and therefore, although it be very hard to recover things broken and spoiled, yet both to provide that no such barbarous disorder be hereafter used, and to repair as much of the said monuments as conveniently may be, Her Majesty chargeth and commandeth all manner of persons hereafter to forbear the breaking or defacing of any parcel of any monument, or tomb, or grave, or other inscription and memory of any person deceased, being in any manner of place; or to break any image of kings, princes, or noble estates of this realm, or of any other that have been in times past erected and set up for the only memory of them to their posterity, in common churches, and not for any religious honour, or to break down and deface any image in glass windows in any church without consent of the Ordinary, upon pain that whosoever shall herein be found to offend to be committed to the next goal.

The words "false," and "feigned images," which frequently occur in these documents, may either refer to images to which particular efficacy was falsely attributed, or (a meaning borne out by some passages in the Homilies) to images falsely alleged to be true likenesses of either the Saviour or any saints, of whom no true likeness existed. But whatever meaning be assigned to these words, the language of both the injunctions and the proclamation, is plainly addressed, not to all "pictures, paintings, or monuments," &c., but to a limited class of them, and this a class tainted with falsehood or superstition. As the Reformation proceeded, and the Articles of Religion came to receive statutory authority, the doctrine of the Church on this subject was plainly set forth.

The Twenty-second Article of Religion declares that "the Romish doctrine concerning purgatory, pardons, worshipping, and adoration, as well of images as of reliques, and also invocation of saints, is a fond thing vainly invented, and grounded upon no warranty of Scripture, but rather repugnant to the Word of God." In other words, it condemns only the abuse of images.

But great stress has been laid in the argument of this case upon the Homilies against the perils of idolatry, which are recognised in the Thirty-fifth Article of Religion (amongst other homilies) as containing "a godly and wholesome doctrine, and necessary for these times, and therefore are judged to be read in churches by the ministers diligently and distinctly that they may be understood of the people."

The 46th and 49th Canons give special directions as to the reading of the Homilies, and the 80th Canon orders the Book of Homilies to be provided in each parish.

This recommendation, however, of the Homilies cannot be pressed further than as containing an approbation of "doctrines," therein contained, and even that of a qualified character, as being specially necessary for the times when the articles were framed and published. Now the homily against the Peril of Idolatry (contained in several parts) sets forth in very glowing colours the vanity and folly of paying adoration or worship to images or paintings, but it recognises the original intention of such images or paintings to have been the better instructing of the ignorant, as set forth in the letter of Gregory to Serenus (cited by the learned judge in the court below). The Homily observes, "You may withal note that seeing there is no ground for worshipping of images in Gregory's writing, but a plain condemnation thereof, that such as do worship images do unjustly allege Gregory for them." The Homily, however, proceeds to affirm that the worshipping of images is a necessary consequence of their being allowed to exist, and therefore concludes strongly for their entire abolition, irrespective of actual abuse. Now, it is plain that the "doctrine" maintained by the Homily is that of the Twenty-second Article, and condemns paying "honour and reverence to images as being an act of idolatry, and contrary to the Second Commandment." In the judgment of its author the existence of any image, whether originally intended for instruction or not, is dangerous, as tending to idolatry. This cannot be called doctrine. It is an opinion as to the consequences which might at that time follow the use of representations of sacred objects, and probably the opinion might then be well founded; whilst it is, on the contrary, notorious that numerous sculptures and pictures representing the Saviour and Apostles and other holy men exist, and have existed for more than two centuries in and outside of our churches, to which no worship has been paid. The old associations were broken off, and the old "monuments of superstition" had either been removed, or become innocuous, before the reign of Elizabeth was closed.

In the 9th of Elizabeth, on a visitation of Archbishop Parker, articles were exhibited, the sixth of which inquired whether any taught "that any man is born with which do extol any superstitious religion or religious pilgrimages, lighting of candles, kissing, kneeling, or ducking to images." And at another visitation in the 12th of Elizabeth, by the same Metropolitan, articles were exhibited, by the sixth of which inquiry is made "whether images and all other monuments of idolatry and superstition be destroyed and abolished, and whether your churches and chancels be well adorned and conveniently kept without waste, destruction, or abuse of anything. Whether the rood-loft be pulled down according to the order

prescribed, and if the partition between the chancel and the church be kept."

These articles appear to observe the distinction noticed in the Queen's proclamation already referred to between the representations which had been abused and those which had not. It is not improbable that there had existed some conspicuous representation of a crucifix in the rood-lofts which had been abused, and therefore was directed to be removed.

In Cardwell's *Annals* (Vol. I., No. LXXVII.) are articles intended to have been exhibited at Archbishop Grindal's visitation in the 18th of Elizabeth, the fourth of which inquires "whether rood-lofts be taken down to the cross-beam," and the sixth inquires whether (among other things), "all images and other relics and monuments of superstition and idolatry be utterly defaced, broken, and destroyed, and if not, where and in whose custody they remain." It appears to be doubtful whether these articles were ever exhibited. From this time, and notwithstanding the revival in the time of James I. of the act of 3 and 4 Edward VI., there appears to have been neither further legislation nor inquiry with reference to pictorial or sculptured representations of sacred subjects in churches.

What, then, is the character of the sculpture on the reredos in the case before their lordships? For what purpose has it been set up? To what end is it used? and is it in danger of being abused? It is a sculptured work in high relief, in which are three compartments. That in the centre represents the Ascension of our Lord, in which the figure of our ascending Lord is separated by a sort of border from the figures of the Apostles, who are gazing upward. The right compartment represents the Transfiguration, and the left the descent of the Holy Ghost on the Day of Pentecost. The representations appear to be similar to those with which every one is familiar in regard to the sacred subjects in question. All the figures are delineated as forming part of the connected representation of the historical subject. The Ascension necessarily represents our Lord as separated from the Apostles, who are gazing at Him on His ascent. As final to the architectural form of the reredos, there is on each side a separate figure of an angel. It is plain to their lordships that the whole erection has been set up for the purpose of decoration only.

It is not suggested that any superstitious reference has been or is likely to be paid to any figures forming part of the reredos, and their lordships are unable to discover anything which distinguishes this representation from the numerous sculptured and painted representations of portions of the sacred history to be found in many of our cathedrals and parish churches, and which have been proved by long experience to be capable of remaining there without giving occasion to any idolatrous or superstitious practices. Their lordships are of opinion that such a decorative work would be lawful in any other part of the church; and, if so, they are not aware of any contravention of the laws ecclesiastical by reason of its erection in the particular place which it now occupies. Their lordships have not adverted to the case of "Cook and others v. Tallent," mentioned by the learned judge in the court below, because they have been furnished by the registrar with a full note of that case, which appears to have proceeded on consent.

Their lordships desire it to be clearly understood that nothing decided in this case affects the question of superstitious regard being paid, contrary to the Twenty-second Article of Religion, to any representations or images that are, or may at any time be, set up in churches. The law will at all times be sufficiently strong to correct and control any such abuse; but their lordships are of opinion that the sculpture in question is not liable to be impugned in that respect. Their lordships will, therefore, recommend Her Majesty to reverse the decree pronounced by the Dean of Arches, so far as it reversed the decree of the Lord Bishop of Exeter in pronouncing for his jurisdiction as Visitor and Ordinary of the cathedral church of St. Peter, in Exeter, but to affirm the decree of the Dean of the Arches in all other respects; and their lordships, regard being had to the argument in the court below and before them, in opposition to the jurisdiction of the Lord Bishop, do not decree the payment of any costs of this appeal by any party. Indeed, they understood it to be stated at the bar, by the counsel for the respondents, that they did not ask for costs.

CLARENCE HOUSE.

DURING the last few days a very considerable number of foreign workmen have been brought over to assist in the completion of the ornamental portions of the works now rapidly approaching completion at Clarence House, the town residence of the Duke of Edinburgh. These men are mould and cornice-makers, workers in plaster, &c.; while for the *bijou* "Greek Church," situated in the west of the building, and intended for the private devotions of the Duchess of Edinburgh, a number of first-class Italian workmen have been brought over to inlay the mosaics of the altar, walls, flooring, &c. In consequence of the failure of all attempts to purchase the building in the rear of Clarence House, a portion of St. James's Palace has been thrown into the new premises, thus affording considerably increased accommodation, while the gardens of the two establishments have been thrown into one and laid out in uniform terraces, slopes, &c. The entire works, it is expected, will be completed by the end of the month.

THE GOOLE CEMETERY COMPETITION.

ACCORDING to the *Hull Evening News*, three of the architects resident at Hull competed for the new chapel, &c., for the cemetery at Goole, but the successful competitor was Mr. Watson, of Wakefield. Considerable dissatisfaction has, however, been expressed, as it is stated Mr. Watson's plan was received on February 4, whereas the advertisements stated the final day for sending in plans was February 1. At the meeting of the board on Friday, a letter was received from Mr. S. Musgrave, of Hull, entering a protest against the decision of the board, and stating that he and the other professional gentlemen had placed the matter in the hands of a legal gentleman, who might shortly communicate with the board on the matter. No order was made upon the subject.

ART AND INDUSTRIAL EXHIBITION AT WOBURN.

ON Wednesday last week an exhibition of works of art, objects of curiosity, and other articles representing the trade and industry of the neighbourhood, was opened at Woburn, under the especial patronage of the Duke of Bedford. The grounds of Woburn Abbey were thrown open to the public on the occasion, and the privilege has been extended during the last few days.

One of the principal features in the exhibition is the numerous collection of landscape views of the neighbourhood. The paintings and engravings include life-sized portraits of the Duke of Bedford and Lady Elia Russell. The former represents the Duke in his volunteer uniform, and has just been completed by Mr. Henry Wells. That of Lady Elia Russell is now for the first time exhibited in public; the artist is Mr. Graves. There are two landscapes by Mr. Alfred de Bressani. One is entitled *September*, and represents a moorland scene near Chislehurst; the other represents *Gipsies Encamped in a Birchwood*. There is also an early painting on copper of the *Adoration*, and a portrait of John, Duke of Bedford, by Landseer. Nothing, however, receives more attention than a number of productions by two local artists, one being Mr. B. J. Phillimore, of Ridgmont, near Woburn, who at present holds the humble position of night watchman to the Duke of Bedford. He exhibits in all ten specimens. One is an original, called *The Lace Makers*, the rest being copies after Raphael, Landseer, and others. The other local artist is entirely self-taught, and he has about sixty water-colour drawings, several of them being landscape views in the neighbourhood. The engravings include a portrait of Her Grace the Duchess of Bedford, from a painting by Buckner. There is also an engraving of the *Silver Fir*, from a drawing by Lady C. Russell, and a water-colour, *The Tall Beach*, by the same noble artist. There is a bust of Lord Herbrand Russell, in white marble, by M. Boehm.

Amongst the miscellaneous articles exhibited are models of Woburn Church; one of a bridge, of 240 feet span, the ribs of which, it is stated, can be made without either bolt or screw. The exhibition is intended to remain open for the next two or three months, and has already been largely patronised.

IRON MANUFACTURE IN AMERICA.

THE American Iron and Steel Association held their annual meeting in Philadelphia on February 11. The report made of the business of 1874 is one of great gloom and depression, and all the proceedings echoed this feeling. There has been an extraordinary decline of prices for all kinds of iron and steel, the markets being overstocked, and at the close of 1874 the iron trade was said to be more depressed than at any time since the panic began in September, 1873. There have been marked reductions of wages, and large numbers of men are out of work. Pig-iron, which in April, 1873, had sold at \$42 to \$47, had declined to \$23 and \$25 per ton; bar iron, then 4½ c. per lb. at Pittsburg, had fallen to 2½ c.; iron rails, quoted at \$82 in 1873, could be bought for \$48 per ton in New York, or Philadelphia. There were 450,000 tons of pig-iron on hand and unsold at the furnaces; and this, notwithstanding the very small production of the year, for while all the stacks in the country (673 in number) have an annual capacity of 4,500,000 tons, only 1,900,000 tons of pig-iron were produced in 1874, and this was a falling-off of one-third from the production of 1873. The manufacture of Bessemer steel rails was about the same in 1874 as in 1873—130,000 tons. The total manufacture of rails of all kinds in 1874 was 450,000 tons; there also being 100,000 tons imported. The consumption is estimated at 550,000 tons. In 1872 there were 1,000,000 tons made here, besides a large importation. The extension of the railway system of the United States has gradually declined from 6,200 miles of new line built in 1871 to 1,900 in 1874, there being when the present year began 72,561 miles of railway in the States. It will be seen from this that but one branch of this important trade—the manufacture of Bessemer rails—has kept up to its former capacity. All other branches have shrunk, and the depression is greatest just at the present time, with very little prospect of early relief.

PARIS EXHIBITION, 1875.

AN International Exhibition is to be held in Paris, under high patronage, from July to November next. The building selected is the well-known Palais de l'Industrie, in the Champs Elysées, where the Exhibition of 1855 took place. The Lord Mayor has accepted the presidency of the London committee for promoting the due representation of the United Kingdom at the Exhibition. The first meeting of this committee will shortly be held at the Mansion House, and meanwhile the regulations affecting British and Colonial exhibitors, and all other particulars, may be obtained of Mr. Edmund Johnson, *Commissaire Délégué*, at 3 Castle Street, Holborn, the London Offices of the Exhibition.

THE BRITISH MUSEUM.

SOME weeks ago we called attention to the unhealthy conditions under which some of the clerks at the British Museum are compelled to work, and to the authorities persistent ignoring of them. We are now glad to report that there is some hope of amendment. The action of the press in the matter has caused several of the trustees to make inquiries for themselves; and in particular Dr. Hooker, the President of the Royal Society, has brought the case very forcibly before his colleagues, and they have given orders for the fitting-up of a properly-ventilated room as an office for the clerks now placed in the "tanks."

PARLIAMENTARY PROCEEDINGS.

MONDAY, MARCH 1.

Water Supply of London.

In the House of Lords Earl CADOGAN asked whether it was the intention of Her Majesty's Government to take any steps or introduce any measure during the present Session with a view to obtaining a better and purer supply of water for the Metropolis. It was admitted that the water supply of the capital was not what it should be, and it would not be till the water was obtained from other sources. The principal offender in respect to impure water had been the Chelsea Water Company. The quality of that company's supply had been condemned in several official reports which had been brought under the notice of the Local Government Board. The company had a Bill at present before Parliament for the purpose of enabling them to effect certain improvements in their works, but he submitted that the Government should propose a measure to prevent the recurrence of a supply of water of the very bad quality of that respecting which there had been so much well-founded complaint.

Lord SALISBURY was able to bear testimony to the fact that the water now supplied by the Chelsea Company was very unfit for domestic use.

The Duke of RICHMOND said that the subject of a better and purer supply of water for the Metropolis was a very large one, and he must, in reply to his noble friend, say it was not the intention of the Government to propose such a measure as was suggested in his question. He was as much interested in the supply afforded by the Chelsea Company as any of their lordships, because he lived in that company's district, and he presumed that the Bill which the company had now before Parliament contained, in addition to other matters, a provision for obtaining the supply from a spot higher up the Thames than that from which it was now drawn.

The National Gallery.

In the House of Commons Mr. BERRSFORD HOPE asked the First Commissioner of Works whether the site for the enlargement of the National Gallery in Trafalgar Square had been acquired by the Government; and, if so, how long that site had been at the disposal of the Government, and what had been the total cost of its purchase.

Lord H. LAMNOR.—From the terms of my hon. friend's question I hardly know what is the precise information he seeks for. I had, therefore, better tell my hon. friend all that has occurred in regard to the site for the National Gallery. Mr. Barry was appointed architect in 1868, and in 1869 he submitted plans for the rebuilding of the National Gallery in sections. Between 1869 and 1873 an area of 53,000 square feet was acquired by the Government. Of this 11,500 square feet were to be given over for the improvement of the street approaches. The first section, comprising 25,000 square feet, is now approaching completion, leaving 17,000 square feet for the second section. The other sections comprise the space now occupied by the barracks of Her Majesty's Guards and by the existing frontage of the National Gallery. As to the appropriation of the barracks I can say nothing without the sanction of the Secretary of State for War.

Mr. BERRSFORD HOPE reminded the noble lord he had not answered about the cost.

Lord H. LAMNOR apologised to his hon. friend, but fancied he was too aesthetic in his tastes to consider the question of cost. He could, however, tell him that the cost of acquiring the area for the first and second sections amounted to 104,861*l*.

Mr. BERRSFORD HOPE has given notice that he will, on Friday, the 19th inst., on going into committee of supply, call attention to the scheme for the enlargement and improvement of the National Gallery, as provided in an Act of Parliament in 1866, and to the present condition of the works.

TUESDAY, MARCH 2.

Westminster Abbey.

Mr. NEVILLE-GRENVILLE asked the Home Secretary whether the recent burials within Westminster Abbey were attended with risk either to the fabric or to the health of the worshippers therein; and whether the Government would consider the propriety of recommending Parliament to add a cloister or *campo sancto* to the Abbey Church for the future interment of illustrious dead.

Mr. CROSS did not think the burials in the Abbey were quite so frequent as the question might lead the House to suppose. He was informed that for the last 22 years the average number had not exceeded one a year. Every possible care was taken to prevent the slightest injury either to the Abbey or the health of the people who frequented it. The proposal to add to the Abbey a cloister or *campo sancto* had already been considered by the Government, but it had not been entertained on account of the enormous expense that it would involve.

Forthcoming Contracts.

Tenders are immediately required for a new cigar factory at Battersea, for Mr. A. Lambert. Messrs Drury & Lovejoy, architects.

Tenders will be delivered on Wednesday, March 10, for the erection of a House at Emsworth, Hants, for Miss Lyon. Mr. J. Crawley, Architect.

Some extensive additional alterations will shortly be carried out at St. George's Mills, Hoxton. Mr. J. Austin, architect.

Mr. W. W. Blackstone is about to erect a large range of stables in Camden Square. Messrs. Francis Bros., Architects.

A large range of premises will shortly be erected at the corner of Bishopsgate Street and Houndsditch. Mr. Lee, of Finsbury Circus, is the architect.

SALE OF PICTURES.

AT the sale of pictures and drawings on Saturday last by Messrs. Christie, Manson, & Woods, a considerable proportion of which were by foreign artists, the following were the most important lots, with the prices realised:—Drawings—"Landscape with Cows," by E. Ellis, 27*l.* 16*s.*; "Landscape with Castle and Cattle," 26*l.* 15*s.*; "Yorkshire Wolds," by E. Ellis, 32*l.* 11*s.*; "Dufton, Westmoreland," E. Ellis, 37*l.* 16*s.*; "Vignettes," by Birket Foster, Lots 33 to 46 sold for 378*l.*; "A View on the Thames at Eton," 16 by 10, by B. Foster, 65*l.*; "Cinderella," by C. N. Henry, 54*l.* 12*s.*; "A Stableboy with Lantern," by W. Hunt, 84*l.*; "Brighton," by B. Foster, 115*l.* 10*s.*; "Dunstanburgh Castle," by the same artist, 94*l.* 10*s.*; "Landed for Bait," by R. Carrick, 120*l.* 16*s.*; "Quinces," by W. Hunt, 120*l.* 15*s.*; "Neapolitan Girl," by Guido Bach, 74*l.* 11*s.*; "A Mayflower Branch and Birds' Nest," by W. Hunt, from the Wade collection, 236*l.* 5*s.*—Nichols: "The Old Warrior," by Simonetti, 30*l.* 9*s.*; "La Lectrice," 12 by 8, by Rossi, 26*l.* 5*s.*; "Jealousy," by Simonetti, 25*l.* 4*s.*; "Chinese Lady with Umbrella," Simonetti, 30*l.* 9*s.*; "The Guitar Player," by Rossi, 23*l.* 2*s.*; "The Page," by Machard, 42*l.*; "The Guitar Player," by Machard, 26*l.*; "The Politicians," by Simonetti, 63*l.*; "La Leçon de Guitare," by Simonetti, 126*l.*; "Itinerant Musicians, Rome," by Simonetti, 63*l.*; "The Page," by Machard, 31*l.* 10*s.*; "The Assassin," by Rossi, 60*l.* 10*s.*; "Le bon Vin et la Bonne," by Simonetti, 20 by 13, 98*l.* 10*s.*; "Interior," with figures of Arabs, 17 by 13, by Simonetti, 65*l.*; "An Old Arab," by Simonetti, 63*l.* Oil paintings—"A Girl," study by Fantin, 22*l.* 10*s.*; "Roses," by the same, 27*l.* 6*s.*; "Spring Flowers," by ditto, 15*l.*; "Mother and Child," by R. Epp, 59*l.* 10*s.*; Water-fowl," by Carl Jutz, 29*l.* 18*s.*; "The Politicians," by Schlosser, 35*l.* 14*s.*; "Landscape," by Madame Cazin, 30*l.*; "Out of the Radius," by the same, 30*l.*; "White Peonies," by Fantin, 49*l.*; "Dahlia," by ditto, 36*l.* 15*s.*; "White Roses," by ditto, 42*l.*; "White Roses," by ditto, 33*l.* 12*s.*—Maclean: "Chrysanthemums, in a Blue and White Vase," 66*l.*; "An Oriental Market Scene," by Pasini, 79*l.* 16*s.*—Everard: "On the North Sea," by S. W. Mesdag, 126*l.*; "Cattle," by De Haas, 143*l.*; "A Woody River Scene, with Boy Fishing," by I. Israels, 86*l.*—Everard: "The Sick Pet, Girl with a Kid," by M. Hublin, 210*l.*; "On the Scheldt," by J. P. Clays, 252*l.*; "Noah's Raven," by P. R. Morris, 18*l.*; "Glen Higichan, Skye," by J. McWhister, 23*l.*; "Tartart, Loch Fyne," by Colin Hunter, 42*l.*; "Gray Morning," by H. Moore, 44*l.*; "The Sabot Maker," by P. Macnab, 24*l.*; "Breakwater at Ballantra," by Colin Hunter, 41*l.*—Tooth: "Bad Weather," by C. E. Johnson, 40*l.*—Sampson: "Scotch Lochs, with Boats and Figures," by Colin Hunter, 126*l.*; "Sailing Free," by the same, 183*l.* 15*s.*; "Lake Scene, with Deerstalkers," by R. Ansell, R.A., 157*l.* 10*s.*—Tooth: "A Dispatch from the Deep," by R. Carrick, 236*l.* 5*s.*; "Landscape, with Sheep," by H. B. W. Davis, A.R.A., 42*l.*; "Off the Wind," by H. McCallum, 152*l.* 5*s.*; "Cattle in the Highlands," by C. E. Johnson, 25*l.* The total amounted to 5,000*l.*

STREET MAKING IN CHESTER.

THE *Chester Chronicle* asks:—Do any of the citizens understand the process of street making in Chester? We know how it is carried on in some towns to the disadvantage of the makers and the advantage of the public in general, but it is not so here. In some places where they have not the luxuries of old charters and worthless Improvement Acts, if a man wants to build a row of houses, or a house, he must build with a frontage to a properly made street. Here a man may "run up" a house anywhere or anyhow. It doesn't matter about the street being made. If it be not, so much the better for the town authorities. They can pocket the rates for a few years, and then turn round upon the speculative builder and tell him to put the street into order before they adopt it. And, what is better still, the authorities, or their servants, may use the new made street, may cut it up into deep ruts, leave it knee-deep in mud, put refuse matter upon it; and, as no one is responsible, nobody cares. At the present time there are several unmade streets in the suburbs of Chester as bad as any cross country roads, and which are a positive disgrace to a city which boasts of Roman antiquities. When will these streets be adopted? Echo answers when? Certainly not as long as streets are not made on any uniform plan.

NEW BUILDINGS AND RESTORATIONS.

Brecon Board School.—The site of the new school is situate in the parish of St. David's, a district which, within recent years, was without a school. The building fronts the main street (Orchard Street) on the south, on the east it is bounded by St. David's Street, and on the north and west sides by gardens. It is built of local stone from the Cwrcas Quarry, near the town, with the exception of the dressings of the windows on the south side, which are of Bridgend stone. The building consists of a school-room, class-room, and two entrance porches, with the usual appurtenances. The length of the building is 68 feet and the breadth 23 feet, with offices attached 76 feet by 10 feet. The school-room is 48 feet by 20 feet, class-room 18 feet by 16 feet. The height from the floor to the wall-plate is 13 feet 6 inches, and from the floor to the apex of the roof 30 feet, the porches being respectively 15 feet by 6 feet. The building and playground is enclosed on the east and west sides by a boundary wall of local stone, and finished with massive solid stone coping; on the south side it is enclosed with iron railing, and the space of ground which the whole occupies is 960 square yards. The roof is an open one of pitch-pine, wrought and varnished, and covered with Bangor and Portmadoc slate laid in alternate courses. The school will accommodate 150 children. The offices are supplied with lavatories, stoneware drainage, and an ample supply of water, laid on for the use of each and for flushing purposes. The work has been carried out by Messrs. J. & T. Williams, builders, of Brecon, and has given entire satisfaction, from the designs and under the superintendence of Mr. Wm. Williams, architect.

Sunderland Subscription Library and Literary Society.—A commodious building, comprising library, lecture theatre, clock tower, and retiring rooms, &c., is about to be erected in Sunderland on a most eligible site facing the park. The committee have met with the greatest encouragement in the way of subscriptions, which amount already to between 5,000*l.* and 6,000*l.*, among which are the Earl of Durham, 500*l.*; Marquis of Londonderry, 250*l.*; Mr. Edward Backhouse, 1,000*l.* The latter also presents the site. The work will be commenced forthwith. Mr. G. G. Hoskins, of Darlington, is the architect.

Great Western Arcade, Birmingham.—A company has been formed for the purpose of constructing an arcade between Monmouth Street and Temple Row, Birmingham, and it is calculated that, with the immediate commencement of the work, it will be quite finished by March 1 next year. The proposed arcade will run parallel with Bull Street, the one entrance to face the Great Western Hotel, Monmouth Street, and the other the Royal Hotel, Temple Row. From end to end its distance will be about 400 feet, and the extent of the site will allow not only of a causeway 18 feet wide, but of extensive shop premises on each side, in some cases spacious accommodation for saloons or show rooms being provided. An upper storey will contain about 44 shops, which, with 50 upon the ground floor, bring the total number very near a hundred. Along the row of steps on the upper storey will go a railed passage about 8 feet in width. Each of the shops in the building will be fitted with three ebony columns, ornamented in gilt, one to be placed at the limit of the shop, another at its angle, and the third at the doorway. In the centre of the arcade a dome will be erected, its diameter to be nearly 30 feet, and its altitude to be about 70 feet. The illumination of the whole structure will be by clusters of lamps. Each cluster will comprise four lamps, and over each shop on the upper storey these will be placed, so as to diffuse the light as much as possible, while the cluster below will droop over the shop front. The arcade will be entered at each end, through arches of about 30 feet in height, these to be furnished with massive gates. The building at each extremity will be built in stone in the Italian style of architecture. It will be constructed in four storeys, and will be surmounted by two towers. The total cost of the undertaking is estimated at 60,000*l.* The foundations have been already prepared. Mr. Henry Lovett, of Wolverhampton, has the contract, and Mr. W. H. Ward, of Birmingham, is architect.

The Devonshire Club, St. James' Street.—The premises, which were once known as Crockford's, have been arranged for club purposes, under the superintendence of Mr. C. J. Phipps, F.S.A. The facade is upwards of 100 feet in length, and looks on St. James' Street from the upper or Piccadilly end of that thoroughfare, and within a few yards of the north-west corner. The new front is of Portland stone. There will be accommodation for 1,500 members. On either side of the entrance-hall is a spacious chamber, the larger of the two, on the left, being the morning and smoking-room; that on the right is set apart for reading. The grand staircase, centrally fronting the entrance, branches right and left; and on either side of the single flight, level with the hall, is an open waiting-room, fitted for hats, coats, walking-sticks and umbrellas. On the first floor, fronting St. James' Street, is a suite of coffee and dining-rooms, running the entire length of the building; the smallest of the apartments, nearest Piccadilly, being for strangers, and having an approach from the entrance-hall by a separate staircase. The service and waiting-rooms for members and for strangers are also distinct. On the second floor the principal room, 50 feet by 28 feet, is the library. There are also on the same level a billiard-room, with top light; a card-room, strangers' smoking-room, and lavatories. Above are the dormitories for thirty men-servants. On the basement are the kitchens, larders, still-room and sculleries, with the cooks', butlers', stewards' and servants' rooms in immediate contiguity. On a mezzanine floor, just below the level of St. James' Street, is a series of dressing-rooms and lavatories, four of which have baths and hot and cold water service. The tradesmen's entrance to the offices of the club is in Bennett Street, by the side of a dwelling-house attached to and communicating with the main building, and these auxiliary premises are apportioned into secretary's and committee rooms, offices, residences for the housekeeper, and sleeping apartments for the female servants.

General

The Royal Academy have given notice that all works of painting, architecture, or engraving intended for the ensuing exhibition must be sent in on Monday or Tuesday, March 29 and 30, and all works on sculpture on Wednesday, March 31. No works can possibly be received after these dates; nor can any be accepted which have already been publicly exhibited in London.

The Exhibition of Old Masters and Deceased Masters of the British School at the Royal Academy will close to-day (Saturday), and the Exhibition of the Institute of Painters in Water Colours on Saturday the 13th inst.

An Exhibition of Cabinet Pictures by British and Foreign artists will be opened at the Gallery of the New British Institution, Old Bond Street, on Monday next.

The Devonshire Association of Science, Literature, and Art will hold its next meeting at Torrington, commencing July 27. Mr. E. J. King, of Crediton, has been invited to preside.

The Royal Archaeological Society's Annual Meeting, which is to be held at Canterbury, will probably commence on July 20. In the course of the week excursions will be made to Sandwich and the Roman Castrum at Richborough, to Dover, and to the neighbourhood of Hythe, Saltwood, and Lympne. An invitation has been accepted from Mr. Charles Hardy to visit and explore the ancient keep at Chilham Castle.

Mr. O. C. Robson, chief assistant of **Mr. Lewis Angell**, C.E., West Ham Local Board, has been unanimously elected surveyor to the Willesden Local Board. There were 59 candidates.

Mr. Lascelles, of Bunhill Row, Finsbury, has just completed, for the London School Board, 11,000 pitch-pine desks and seats for their new schools.

Messrs. Robert Neill & Sons, of Manchester, have obtained the contract for the erection of new barracks at Warrington. The amount is stated to be 69,000*l.*, and a commencement has been made with the works.

Herr Muller-Strubing, who has edited an edition of *Vitruvius*, is about to deliver three lectures in German at the Freemason's Tavern, "On the Historical Development of Ancient Greece, and its influence on the modern civilisation of Europe."

The Emperor of Brazil has been elected a corresponding member of the French Academy of Sciences.

Mr. Henry Blackburn will, on Wednesday next, read a paper before the Society of Arts on "The Art of Illustration as applied to Books and Newspapers," when the feasibility of daily illustrated newspapers will be discussed, and some particulars of the working of the *Daily Graphic* of New York communicated to the meeting.

Mr. Gladstone, having sold his town residence in Carlton House Terrace to Sir Arthur Guinness, has, it is said, disposed of his fine collection of ancient and modern pottery.

General Arthur Morin, Director of the Conservatoire des Arts et Métiers, Paris, and **Sir Charles Wheatstone**, F.R.S., have been elected as honorary members of the Institution of Civil Engineers.

The Earl of **Chichester**, **Mr. Redgrave**, R.A., and **Mr. Ruskin**, R.A., have been invited to attend at the opening of the new School of Art in Lewes.

Prudhon's Great Picture, *Venus and Adonis*, was sold by auction on Tuesday at the Hôtel Drouot, Paris, for 2,670*l.* It is said Sir Richard Wallace is the purchaser.

Mr. J. F. Bateman, C.E., has reported in favour of two alternative schemes for the water supply of Liverpool—one from the river Wyre, with its tributaries the Brock and the Calder, yielding about 26,000,000 gallons per day, at a cost of 2,141,000*l.*; and the other, which he favours most, from Ullswater, which he says would be sufficient to supply Manchester and Liverpool. One tunnel would be required, 8½ miles long. The cost to Liverpool would be 2,421,000*l.*

Mr. Edward Sang, C.E., at the last meeting of the Royal Society of Edinburgh, directed attention to the faulty construction common in skew arches—a construction, he said, so erroneous in principle that but for the cohesion of the lime it would necessarily cause the downfall of the structures.

Mr. Philip Cunliffe Owen, C.B., has been appointed as Executive Commissioner for the British section of the International Exhibition, to be opened in Philadelphia on April 19, 1876.

A Portrait of **Sir William Fergusson**, Bart., F.R.S., subscribed for by his numerous friends, and painted by **Mr. Rudolf Lehmann**, has been presented to the College of Surgeons. A replica has been executed to hang in the Edinburgh College of Surgeons.

The Monument erected in the Père Lachaise to **Generals Thomas and Lecomte**, who were assassinated by the Commune in 1871, will be unveiled on the 18th inst.

The **Kingsley Memorial** is to comprise not only the restoration of Eversley Church; it is proposed that a bust should be made, and that one copy be presented to the Chapter of Westminster, to be placed in the Abbey, and another to Cambridge, of which University **Mr. Kingsley** was a member. **Mr. Woolner**, R.A., has expressed his willingness to undertake the execution of the bust.

The **Narrow-Gauge Tramway** in the Royal Arsenal, at Woolwich, is to be further extended, both in the Royal Laboratory and Carriage Departments, at a cost of 2,000*l.*; and 890*l.* is to be spent in completing the connection of the Royal Dockyard at Woolwich with the Royal Arsenal, via the North Kent Railway.

Several Receipts signed by the executors of **Sir Peter Lely**, the painter, who lived in Covent Garden, have been discovered among the papers belonging to **Messrs. Childs**, the bankers, in the upper room over Temple Bar.

The Death is announced of **M. Seguin**, the nephew and pupil of **Montgolfier**, at the age of 89. He constructed the first important French railway, the line from Lyons to St. Etienne, and introduced into France express trains and chain suspension bridges.

The Gigantic Clock, exhibited by **Mr. Benson** at the International Exhibition of 1862, has been purchased for St. James's Cathedral, Toronto.

An Examination, in so much of State medicine as is comprised in the functions of Officers of Health, will be held in Cambridge in October next. The principles of pneumatics, hydrostatics, and hydraulics, with especial reference to ventilation, water supply, drainage, construction of dwellings, and sanitary engineering in general, will form some of the subjects.

The Municipality of Paris have presented to the Corporation of London some valuable volumes illustrative of the history of old Paris, one especially, entitled "Paris and its Historians during the 14th and 15th centuries;" some very beautiful chromo-lithographs, including fac-simile reproductions of portions of ancient illuminated manuscripts. There are also reproductions of engravings in outline, illustrating the "Dance of Death," supposed to have been taken from the original wall paintings at the cemetery of St. Innocent.

A Monumental Brass, in a fine state of preservation, has been discovered under the sedilia of Althorpe Church, Lincolnshire. It is inscribed, "Hic jacet Willhelmus de Lound, quondam Clericus Cancellarius domini regis ejus anime propicietur Deus." William de Lound was presented to Althorpe by **Joseph Panely**, Prior of the Knights of St. John of Jerusalem, in the year 1355.

The **Mercers' Company** have made a grant of 50 guineas and an annual subscription of 10 guineas in aid of the funds of the Royal National Hospital for Consumption, located at Ventnor, and towards the sum of 3,000*l.* required for completing and furnishing the remaining houses of this institution.

The Prospectus has been published of the United Kingdom Aquarium Company, with a share capital of 200,000*l.*, in 10*l.* shares.

The Cost of the annual painting and repairing the roof of the Agricultural Hall, Islington, has, according to the Directors' report, been nearly doubled by the effects of the Regent's Park explosion.

The "Chronique des Arts" states that in Spain thieves are busy among the pictures and statues. The cartoons of **Goya** at Madrid are gone; the crown has been removed from the statue of the Blessed Virgin in St. Ferdinand's Chapel at Seville; the *Mater Dolorosa* of Gano at Granada has been stolen, and the Spanish Legation at Paris have just put in a claim for a statue which had been taken from Madrid.

The Secretary of the Hereford Church Building Society suggests that incumbents and others who are engaged in the restoration of churches should note at the time the nature of the work done and the sums expended on it, and deposit it with the papers belonging to the parish.

A Fire occurred in the Advocates' Library, Edinburgh, on Tuesday last. It proceeded from the flue of the furnace used for heating the water which is led through the building. Catching hold of the wood, the fire soon communicated with the books, and before the arrival of the fire brigade of the city a large portion of the library was placed in jeopardy.

The Aberdeen Harbour Commissioners have accepted a contract from the Burmah Brick, Lime, and Cement Company (Limited), London, to supply 3,000 tons of Portland cement at 38*s.* 3*d.* per ton.

The Greenock Police Board are considering the advisability of ventilating the sewers in the town by drawing off the noxious gases from them into the chimney-stalks of convenient manufactories, where they could be consumed.

The Restoration of the East Church, Aberdeen (which was nearly destroyed by fire some months since) will cost 5,010*l.* The amount of the insurance is 5,000*l.*

A Cast of a portion of the Lady Chapel at Rosslyn, comprising the Apprentice Pillar and the adjoining compartment, has been taken for the architectural court at the South Kensington Museum by a party of Royal Engineers under the direction of **Professor Archer**, director of the Edinburgh Museum of Science and Art.

Two Pictures by **David Allan** have just been added to the Edinburgh National Gallery. One of them has a peculiar interest as having gained the gold medal of the Academy of St. Luke at Rome, given in 1773 for the best historical picture, the subject selected being *The Origin of Painting*.

Roman Remains were discovered at South Shields, at the mouth of the Tyne, on Wednesday. An estate is being laid out upon the ancient "Lawe" there by the Ecclesiastical Commissioners. This is the supposed site of a strong Roman fortification connected with the Roman Wall. The "find" included a column 12 feet high, a number of Roman coins, and other remains.

The Contracts for the Dunfermline and Queensferry Railway have been taken by **Mr. Hector M'Kenzie**, Turriff, and **Messrs. Alexander Wilson & Son**, Edinburgh and Lockhead. Land has been taken for a double line of rails, and the necessary arrangements with the proprietors interested have been all but completed.

Plans are in preparation for an extension of the Scottish National Institution for Imbecile Children at Larbert. The probable cost will be 12,000*l.*

A Committee has been appointed by the Brighton Town Council to manage all matters connected with the beach, and to regulate the abstraction from it of sand and gravel by local builders and others.

A Deputation appointed by the Liverpool Health Committee to inquire into the working of the wood and asphalt pavements in London, have reported that they cannot recommend either kind of pavement to any great extent until the advantage over set paving is proved by further experience.

A Meeting is to be held at Ruthen during the Easter recess or the Spring Assizes for the purpose of arranging, if possible, for the erection of an infirmary for Denbighshire and the adjoining counties.

The Liverpool Borough Surveyor has prepared plans for improved approaches to the landing stages. The scheme embraces a high-level roadway approached by easy gradients, and the estimated cost is 450,000*l.*

The Following Decree was submitted to the Convocation at Oxford on Thursday:—"That the Curators of the Bodleian Library be authorised to procure plans and estimates for enclosing and fitting up the Proscholium, or entrance to the Divinity Schools, and passage between the Convocation House and Bodleian Library and Schools Quadrangle, more generally known as the Pig Market, as a fireproof receptacle for the manuscripts and other valuables belonging to the Library."

The Liverpool Town Council has agreed to vote 1,000*l.* for the erection of the statue of **Mr. Alderman Walker**, in recognition of his generous gift of an art-gallery to the town. The gallery will cost 25,000*l.*

The Hoarding round the base of the Vendôme Column was cleared away on Monday. The restoration of the column is complete, with the exception of the statue on the top.

The Architect.

HONOUR TO WHOM HONOUR IS DUE.



HONOUR TO WHOM HONOUR IS DUE. If the rumour be correct that the Government, upon taking up at length the important social questions of the reform of artisans' dwellings, and the protection of the health of the poor, desires to recognise the long and persevering services of Mr. GEORGE GODWIN in that cause by conferring upon him some mark of distinction as a representative man, we feel sure that we shall be only giving expression to a sentiment which is universal in the building world, both professional and practical, and in the still wider sphere of sanitary science and philanthropy, if we take leave to say that such an act will be both just and graceful. It would be no compliment to Mr. GODWIN to remark that others, his life-long colleagues in benevolent enterprise, have preceded him in public recognition without in most cases professing to have excelled or perhaps even equalled him in usefulness; but in so far as this may be supposed by his friends and admirers to have been the fact it cannot at any rate be put down to any compensating fault of his own; the journalist is generally the last to be rewarded, and perhaps it is in the nature of things right and proper that it should be so.

It is not necessary that we should recall to mind the earnestness and persistency with which Mr. GODWIN has pushed forward the cause of sanitary reform for nearly thirty years as the most consistent of all its pioneers. This energy of purpose, and indeed this consistency of doctrine none the less, have probably been due to the circumstance that as a professional architect, and we may say still more as a practical surveying officer of the public, not only has he had personal opportunities of observation, but he has possessed also peculiar knowledge as an expert, by reason whereof that which was with others a comparatively vague benevolence was with him a specific intelligence of definite aim. Nor was it at the best an easy task to which he devoted himself so long ago. The work has been all up hill. Where one somewhat sentimental CHERYBLE would graciously approve its purpose, a score of hard-headed GRADGRINDS would contemptuously pronounce it a bore if not a delusion. Now, however, it really seems as if even busy politicians were disposed at length to try an experiment in its favour; and whatever differences of opinion may exist upon the details of the measures before Parliament, it is certainly the fact that no discord whatever is heard as to the merit of their principle. If the journalist of the movement may not at such a moment be fitly remembered, and his life-long services fairly recognised, we scarcely know who can be entitled to a public compliment in these days when peace hath her victories so much more than war.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

Othello.

IN concluding the historical plays we bid farewell to the architecture and costume of England, and shall see her no more except as an isolated figure here and there among the crowd of foreigners at Venice. The plays remaining to be considered may be grouped in six divisions, according to their nationalities.

ITALY.—*Othello*, Venice; *Two Gentlemen of Verona*; *Merchant of Venice*; *Taming of the Shrew*, Padua; *Tempest*; *Measure for Measure*, Sienna.

AUSTRIA.—*Twelfth Night*, Illyria.

SICILY.—*Much Ado About Nothing*.

FRANCE.—*As You Like It*; *All's Well that Ends Well*.

SPAIN.—*Love's Labour Lost*.

ROMAN.—*Coriolanus*; *Julius Cæsar*; *Antony and Cleopatra*; and *Titus Andronicus*.

GREEK.—*Troilus and Cressida*; *Midsummer Night's Dream*; *Pericles*; *Timon of Athens*; *Winter's Tale*; and *Comedy of Errors*.

The period of the action of those plays, whose titles are here printed in italics, belongs to the time of SHAKESPEARE.

Taking the Italian group first we find that with two exceptions—*Othello* and the *Two Gentlemen of Verona*—there is nothing in the text of any of them indicative of a time other than that of the period at which SHAKESPEARE wrote them. In *Othello* there is a scene laid in Cyprus, which is never acted, consisting of these six lines:—

OTHELLO. These letters give, Iago, to the pilot;
And, by him, do my duties to the Senate:
That done, I will be walking on the works,—
Repair there to me.
IAGO. Well, my good lord, I'll do't.
OTHELLO. This fortification, gentlemen, shall we see?
GENTLEMEN. We'll wait upon your lordship. [*Exeunt.*]

* The Tragedy of Romeo and Juliet, which belongs to the Italian group, formed the subject of my notes in the *Architect* for November 14, 1874.

This is alone sufficient to show that Cyprus was not only garrisoned by Venetian troops, but that the port where OTHELLO lived was being fortified during the period of the action. Now, as Cyprus was taken by the Turks in 1570, and the Venetian garrison was first quartered there in 1471, we must seek between these years the time for OTHELLO's occupation.

From 1471 to 1489 the island, although defended by Venetian soldiers, was nominally ruled by CATHERINE CORNARO; but in the year last mentioned she resigned all her rights in favour of the Republic, and Venice maintained peaceful possession until the Cyprian wars, which ended (after OTHELLO's death) with the Turkish victory of May 1570. War, however, has been declared before the play opens, for in the very first scene, IAGO, speaking of OTHELLO, says:—

— he's embark'd
With such loud reason to the Cyprus' wars,
(Which even now stand in act.) —

And in the third scene we learn that the Turks, with a fleet counting between one and two hundred galleys, had been seen "bearing up to Cyprus," but had changed their course "toward the isle of Rhodes," and there, joined by a second fleet of thirty sail, were seen to

— re-tem
Their backward course bearing with frank appearance
Their purposes towards Cyprus.

This expedition, however, came to grief, for a "desperate tempest" scattered the fleet and brought it to entire or "mere perdition," as the Venetian Herald calls it. But the course described in the text exactly tallies with that which was actually pursued in the very part of the year 1570 under the Ottoman leader, MUSTAPHA, who, after weathering the equinoctial gales, made his successful attack on Cyprus in the following May. We may therefore conclude that the play refers us to the Spring of 1570, or thirty-two years before it was first acted. This brings us so near to SHAKESPEARE's own day that it is scarcely necessary for us to make any distinction between the costume of this play and that of the Merchant of Venice, which I purpose to describe in detail. It may be noted, however, that there are still remains of mediæval buildings sufficient to show that the town of Famagusta—doubtless the sea-port where OTHELLO lived, and which the Venetians were fortifying in 1570—was a place of importance in an architectural point of view long before the Venetian occupation of the island.

The play of *Othello* contains fifteen scenes, three exhibiting the architecture of Venice, and the other twelve that of Famagusta. We need only look at them as they are placed in the text to see how easily they may be modified to suit the modern fashion of a set scene for nearly each act.

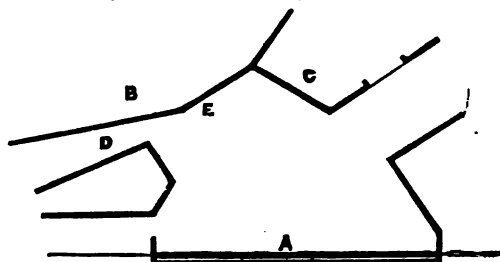
The first Act consists of three scenes in Venice.

1. A street.
2. Another street.
3. A council chamber; Duke and senators sitting; officers attending.

The first street or place is opposite the palace of the Magnifico BRABANTIO. The second is close to the arsenal, the sagittary or sagittarius being a piece of sculpture marking (most Venetian houses had their special marks) the entrance to the residences or quarters of the superior officers. This second street might serve quite well for the first scene if, in cutting the text to prepare it for modern acting, our stage editors would finish the scene at that speech of IAGO's beginning with the words,

Call up her father,
Rouse him: make after him, poison his delight,

Then exit RODERIGO. IAGO, retiring in an opposite direction, meets OTHELLO, and so returns for the second scene.* This scene may be rendered very effective if arranged as shown in the diagram,



where A shows the proscenium, B the canal, C the court-yard of the "sagittary," and D the way to the DUKE's and BRABANTIO's Palaces, although CASSIO or BRABANTIO, or both, may be supposed to arrive by gondola at the quay E. Boundary walls, gateways, and low towers, with a background of ships of war, would form the elements of this scene, and the style of the buildings may include old brick walls as well as new stone work, the latter of course being in the Renaissance style of the Library of St. MARK or of the Vrandramini, Grimani, or the old Cornaro palaces, built or designed between 1520 and 1550. A scene set like this would necessitate the fall of the curtain in order to prepare the last and the most sumptuous scene in the whole play; viz., the Council Chamber in the DOGE's palace. For this, however, I refer my readers to my notes on The Merchant of Venice. For the rest of this play we are in Cyprus.

* Iago's last speech in this scene might be joined to that "Call up her father," &c.

In the second Act we have three scenes, but there appears to me no reason why one scene should not suffice for all. The text gives—

1. A seaport town in Cyprus.
2. A street.
3. A hall in the castle.

The first direction is very vague, and we must therefore go to the text to seek a definite meaning for it. There we find that the first scene is a kind of open or public courtyard to the citadel or castle, that close outside it is the harbour or bay with the quay or landing-place, and that the castle or the residence of the commander or governor of the island is on one side of it. Standing in this half-public sort of courtyard we hear the shouts of the people who line "the brow o' the sea;" we see the blocks of stone scattered about, and the new "works" in all the usual confusion of builders' mess and muddle. Here, on the right, through an archway newly built, with the lion of St. Mark roughed out on its frieze, we see the hill that leads to the town on one side of it. At the back of the scene rises the fifteenth century castle with its broad stairs leading to the great entrance doorway, from the castle to the other side of the scene stretches the sixteenth century fortified wall, half built, outside which steps conduct down to the lower line of fortification and the quay beyond; through a tower gateway on the extreme left we get a glimpse of further fortifications and the new works thereof, and there, too, is the guard-room with an open arcade, under which, in the third scene, the drinking party would begin their revels. In such a scene as this I have thus roughly and very imperfectly sketched, if properly set, composed and painted, the whole of the second and third acts may be represented. I say the third, because the short second scene, which is the only one inside the castle, might just as well be before the castle as not. The fourth act contains three scenes:—

1. Before the castle.
2. A room in the castle.
3. Another room in the castle.

There is no reason that I can discover why there should be two different rooms for the second and third scenes, nor can I see why the first scene should not be inside instead of before the castle, except for the presence of *BIANCA* the courtesan, and this may be rendered as possible to an interior as to the courtyard if we make the room open through a cloister, corridor, or double arcade to the courtyard at the back. *BIANCA* might then ascend by two or three steps just under the arches without in any way violating the probabilities, and thus a set scene for the whole of the fourth act could be secured. This interior might be Gothic or Renaissance; if the first, we must bear in mind the fact that the Gothic of Cyprus had nothing whatever to do with Venetian Gothic, but was more like that of Jerusalem and even of Central and Northern France.

The fifth act contains two scenes:—

1. A street.
2. A bedchamber.

It is impossible in the last Act to do with less than two scenes. The street here is clearly in the town, and so we may indulge our fancy so far as to group together the Renaissance of Italy, the Gothic of Syria, the Romanesque of Byzantium, and the ruins of pre-Christian times.

We come now to the last scene. And here we find the text agreeing with the ordinary construction of the bedchamber of the sixteenth century, so that we need not go out of our way to copy the double stage apparatus of the Elizabethan Theatre. *DESDEMONA*'s bedroom was in plan nothing more nor less than what we still see in many modern houses on the continent, i.e. the bed-place was an alcove or recess, or, if you prefer to call it so, a small room with one side open to the chamber proper. Across this open side, which might be arched, curtains were suspended, and the floor of the bed-place might be raised three or four steps above the chamber floor. This apartment would naturally be placed in the best part of the castle, and would therefore be Renaissance work of the character already mentioned.

The costume of the Venetians in 1570, or twenty years before the date of the Merchant of Venice, was so like that I propose to describe when I come to treat of this last-mentioned play, that it is unnecessary to dwell on it here. The inhabitants of Cyprus—*OTHELLO*'s old acquaintance of the isle—were more or less men of warlike character, and were habited like Greeks or Persians rather than like western Europeans. The cavalry of the island were really Greek, and were called *Stratigari* or *Estradiots*; they wore tall turban-like hats with a feather stuck upright in the front, tight guarded or braided bodies, long loose skirts of a different colour, tight under sleeves, long hanging over sleeves, a rich sash, and a sabre suspended behind by a belt across the right shoulder: one of their sabres may be seen in the collection at Goodrich Castle.

One word as to the music. Amidst the drinking songs and the old ballad of "Willow" may not room be found for those charming compositions of *LUCA MARENZIO* (1570) and *GIO. CROCE* (1560) which were known to *SHAKESPEARE* and the Court of *ELIZABETH* of England as well as they were in Florence and Venice? In the intervals of *IAGO*'s rough songs it would form a pleasing contrast to hear from the castle the distant harmonies of "*CYNTHIA* thy Song, &c.," "So saith my fair and beautiful *LYCORIS*," or "Lady see on every side," &c.

THE LAST OF THE EXETER REREDOS CASE.

PLAIN people of artistic sympathies, while they rejoice that the judgment of the Privy Council has definitively settled the dispute about the Exeter reredos in favour of the figures, may be excused for wondering how it should have required such a vast amount of technical disquisition for the attainment of so simple an act of common sense. But at any rate the figures are to remain, they will say, and, when the lawyers are paid, there will be an end of the matter—except, of course, that an important principle is now established for the future guidance of the Protestant Church of England as by law established. Sculptural art, in a word, and with it pictorial, shall be no longer restrained in our churches within any other limits than those which apply to the setting up of idols that are to be adored; so long as we do not worship them but are content to admire them, we may enjoy the intellectual and even the sentimental luxury of using "graven images" to any extent we can afford.

It is of course only lawyers and divines who need to go back to the legislation and polemics of the Elizabethan times for the authority that shall determine such a question. The one set of these learned persons are always under the deplorable necessity of regarding the commonest transactions of life as so many hazardous speculations undertaken by the parties at their peril, under the bonds of a contract which they must be supposed to be intimately acquainted with at the beginning, but which it may nevertheless require the acutest hairsplitting of Lincoln's Inn and the Temple to interpret at the end. This contract is the law; and those of us who might be disposed to scoff a little at the idea of applying in these times to Queen *ELIZABETH* and King *JAMES* for a decision upon our ecclesiastical designs can only be informed that a legal contract, by virtue of which alone we are what we are on Sundays, was duly made by our worthy but obsolete and forgotten progenitors of that day, who, although they have been "in the mould" for some three hundred years, have left to us nevertheless their act and deed as the unrepelled statutes of the land. As regards the other class of learned persons we are restrained by respect for their sacred calling from too critically commenting upon the character of their logic; and certainly it must be admitted on all hands just now that if they are forced to obey the dictates of musty antiquity it is not for want of sufficient readiness on the part of many of them to adjust whatever modern differences may prevail by arguments of much greater simplicity than such as are derived from the records of the sayings and doings of their not over independent predecessors of a long three hundred years ago. But to others than the lawyers and the clergy the case of church decoration may be said to be as clear as could be desired, and the conclusion so painfully arrived at by the Lords of Her Majesty's Privy Council is precisely that which most plain-thinking people have been cherishing any time these twenty years at least; so much so, indeed, as to warrant in some measure an application in this instance of the principle which in many other matters is disrespectfully alleged to be very near the fact, namely, that my lord on the bench does not always arrive at his decision by the force of the argument which he delivers, but more generally jumps to his resolution by the exercise of the commonest of common sense, and then shapes his summing-up to justify it as best he can.

Amongst the fundamental essentials of Protestantism there is no doubt included the doctrine that pictures and statues are not to be "worshipped." The whole question of what the worshipping of these representative objects is or is not is obviously opened up to those who are disputatiously disposed by the statement of this proposition, whatever language may be adopted in its expression; and the more the matter is debated the more confused it may be said to become; but it is fortunate that, amongst those Englishmen who are less particular about phrases than things, the idea here involved is in no way obscure. Idol-worship of this direct and palpable kind is certainly not their practice in this nineteenth century, nor is it at all likely to be so. They may have their faults and failings, both in church and out of it; but that such shortcomings have even in the slightest degree a tendency in this direction it is quite needless to deny. The admiration of decorative art, however, is a rapidly growing sentiment; and if this be so in the church as well as in the world, let us hazard the assertion that it is a thing to be regarded not with displeasure but with satisfaction. Indeed the adornment of our churches has been for a whole generation back one of the most charming pursuits of the community; and even the puritans of our day—and they can be severe enough and cynical enough when occasion requires—scarcely have the heart to condemn a practice so amiable, even when they may be forced dogmatically to question its propriety or to proclaim its inexpediency. In fact, if the truth must be told, they take to it in many cases only too kindly themselves.

The introduction of statuary into our churches, if employed only as a display of art, is that which is now declared to be, to any extent that may be thought fit, strictly correct according to law. Pictures, as we have said, must obviously participate in this freedom from restriction. Of course it may be said that the judgment before us is not wholly free from the suggestion that the encouragement of indirect superstition as well as of direct idolatry is a thing that the law may be set in motion to prevent; but this is, for the present at least, too vague an idea to have any practical influence, and we may certainly expect to see pictorial and sculptural church work flourish assuming a much more important aspect than hitherto. And why

they should be restrained is a question, now that it has been authoritatively answered, with regard to which it only seems wonderful that it should have ever been raised. From the very first glimmers of culture, in all ages and in all lands alike, the adornment of the temple with the best and most beautiful at command has been the rule, and it surely cannot be said that Christianity has been an exception. Nay, amongst all the faiths which in the course of this world's history have offered discipline and consolation to mankind, Christianity has been one of the foremost in the glorious work of beautifying the house of prayer and praise. Even the majestic grandeur of the temples by the Nile, the exquisite grace of those in the old Grecian cities, and the quaint richness of the mysterious structures of India, are all in one sense or another outdone by the wealth of artistic effort which the imposing cathedrals of mediæval Europe display. It is true that certain doctrines which happened to lie at the root of this system of art, and perhaps to animate it with a particular form of vitality, are disowned in England both by the law of the realm and by the public opinion of the nation at large; but why Protestantism should lay us under the ban of a new second commandment, and deny to our churches those delightful arts which not even our Quakers can dispense with in their private dwellings, it seems impossible to understand. To say that the question is one of degree is surely an idle answer; it is far simpler, and far more sensible, to regard it as one of abstract principle alone. The question of degree is not likely to acquire much prominence, if any. Long before it can become a public scandal that the clodpools of a country village are putting up *grayers* to a picture, or the ladies of a metropolitan mission invoking the aid of an image, there must be a doctrine at work whose teacher can be directly tackled by the law; and we may safely wait with patience till such a thing actually happens somewhere before we jump to the conclusion that the sculptured tablets of so prudent a churchman as Sir GILBERT SCOTT are to bring it about everywhere. To suppose that either the architect or the chapter intended the *Master* *recedos* to be an encouragement to either idolatry or superstition is on the face of it too absurd.

KUGLER'S HANDBOOK OF PAINTING: THE ITALIAN SCHOOLS.*—III.

IN the sixteenth century painting in Italy was raised to a height which the world is agreed has since been unapproached. The way was made easy by the labour, experiments, and discoveries of the previous centuries, but still Da Vinci, Michael Angelo and Raphael stand so much by themselves that their art seems to be some new revelation rather than the natural result and completion of what others had attempted. The condition of the country was different. The simple patrons who had rejoiced over many a work of Giotto, Duccio, Memmi or Angelico had passed away. There were no longer several independent schools or rather guilds, with members "loving each other as brothers, without rivalry, ambition, or envy, each rejoicing in the honour and reward of his friend as if they had been his own." The object of Art was merely decoration, and the gratification of a patron was aimed at instead of the elevation of a people.

The first place in any account of this period must be accorded to Leonardo Da Vinci. He was born twenty years before Michael Angelo, Titian and Fra Bartolommeo; thirty years before Raphael and Giorgione; and forty years before Correggio. But apart from this he seems to have almost equal claim to priority from his ability. His life and character have hardly yet been treated as they deserve. It was a pity the late Lord Macanlay was so ignorant of all matters relating to Art that he used to apologise when he had to refer to them, although, to use Sydney Smith's words, he was cock-sure of everything else, otherwise this was just the subject which would have suited the genius of such a master of the art of rhetorical contrast. In an age when every artist was versatile, Da Vinci was remarkable for the varieties of his capacity. He was painter, sculptor, poet and musician. In times of peace he said he could design houses or arrange a water supply for towns as well as any one, and as a military engineer he considered himself superior to any commander then living. In devising surprises for state pageants he must have been more ingenious than a modern stage mechanist, and his birds of paste, lions filled with lilies, lizards with dragons' wings, orbs containing Mercury, Venus, Mars, Jupiter and Saturn, planets revolving in concentric circles through coloured fires, with the great artist under one of the tripods playing on a golden lyre, have a marvellous resemblance to the wonders of a pantomime which has been produced regardless of expense.

"Whilst Raphael and Michael Angelo were ornamenting Italy with their immortal labours," says Rescoe, "Leonardo was blowing bubbles to fill a whole apartment, and decorating lizards with artificial wings." But Leonardo could interest himself with trifles of this kind, and still be the artist, and it was not without reason that he said to Michael Angelo, "I was already famous before you were in existence." It was from his works no doubt, as Bamy says, that Raphael, Giorgione, and Fra Bar-

tolommeo derived their feeling for colour and expression, and it would have been better for Raphael if he had been at first sent to Da Vinci's studio as a pupil rather than to Perugino's. But when his capabilities are attempted to be realised it would seem that, like many a man of genius before his time and since, more permanent results might have been produced if he possessed less ability. The peculiarities of his character are well described by Lady Eastlake in the new edition of Kugler:—

"Leonardo's powers were too much for one man, or for one ordinary length of life: they trod on each other. With fewer gifts there would have been more results; with less ardour for science, more performance of art. His temperament also impeded his free course. He was fastidious, dreamy, impulsive, procrastinating, and ambitious of shining in society. He saw before him summits of perfection higher than mind or hand could attain. He left what was good and certain for experiments after what he felt would be better. He studied everything in turn with utmost ardour, and he finished nothing he undertook. All people courted him, all crafts tempted him. Even in his art he was pulled in opposite directions—in deed in all directions. His ideal of our Lord's head is the loftiest that Art has realised. His Apostles' heads are among the truest and noblest transcripts of Nature. He attained in the countenances of his Madonnas and Children an ineffable sweetness and pathos which breathe the very airs of Heaven. At the same time he analysed the principles of all that is monstrous and mis-shapen in the human face; and in his caricatures, of the authenticity of which there is unhappily no doubt, he seems to have gloated over forms of wanton hideousness, half human, half brute, and all traced with an exquisite line, from which we turn with repugnance.

"The temperament of Leonardo may be recognised by the very processes of his art. He altered and retouched without ceasing. His chief aim seems to have been not so much to complete a work as to retain the power of correcting and improving it. Thus he added coat to coat and film to film, ever deferring the end of his labours till a greater solidity and body of colour (*impasto*) gradually grew beneath his hand, than any other painter before him has left." "Leonardo's refined taste and fastidious habits," says Sir Charles Eastlake, "may be traced in opposite effects, in untiring labour and causeless dissatisfaction." The wonder is not that he left so little, but that under these circumstances he should have left enough to establish the transcendent nature of his art. Indeed, there is nothing stranger in history than the fact of so great a reputation resting on so shattered and uncertain a basis; on one single work, long reduced to a shadow; on, at the most, half a dozen pictures, for which, or for parts of which, his hand is alternately claimed and denied; and on unfinished fragments which he himself condemned.

"He was, properly speaking, the founder of the Italian process of oil painting; but the sacrifices he made to establish that process, however obvious to those who study him, can never be entirely computed. His very experiments on the nature of oils and varnishes can only be considered as misuse of precious time, and misapplication of an unrivalled hand."

"His observation of external nature and of her more hidden laws and forces was equally close, ardent, and original. His social gifts and worldly qualities were irresistible, while, as to the higher springs of action, he seems to have been morally indifferent as to whether he talked and laughed, played and sang, painted and modelled, designed engines for the benefit of all time, or invented toys for the amusement of an evening in the service of friend or foe, compatriot or foreigner. Of few men could so much that is psychologically interesting be said, and of few men of note is so little known."

In spite of the restlessness of his own mind Da Vinci must have been a devoted teacher. His scholars rank as artists far before those of Raphael, or the few who were taught by Michael Angelo; and, as the head of the Milanese school, he did more than either of his great contemporaries in endeavouring to transmit the traditions of Italian Art.

Rescoe's words, which we have quoted above, express a belief, which may not be confined to readers of the historian of the Medici, that Michael Angelo and Raphael adorned many parts of Italy with their works, but these masters were at least like their predecessors in confining themselves to one or two cities. Giotto, it is true, travelled from town to town and painted the walls of churches in Assisi, Rome, Florence, Padua, Verona, Ferrara, Ravenna, and Naples, but those who came after him, with few exceptions, confined themselves within a more limited district. Instead of filling Italy with his works, beyond Rome there is no evidence of Michael Angelo's power as a painter; for in all the remainder of the kingdom there is but one picture known to have come from his hand—viz., *The Holy Family*, in the Uffizi at Florence. Most of Raphael's works were easel pictures, which doubtless were often produced without much regard for their destination; but after the artist took up his residence in Rome he never executed a fresco outside the capital. It must ever be regretted that, attracted by the rewards offered to them, Raphael and Michael Angelo attached themselves to a city in which there were neither scholars to be quickened by their genius nor other artists to promote a healthy rivalry. Hence, strictly speaking, there never was a "Roman" school, for the masters whose names may be associated with it were not natives, and they differed so among themselves that it is impossible to assign any qualities in common to them. Had Michael Angelo continued to reside in Florence, his influence on subsequent art might have been different. His works in the Sistine, on which his reputation as a painter depends, were not carried out under the circumstances which can make an artist's labour a joy to him. He commenced them unwillingly, and concluded them without satisfaction. *The Last Judgment*, in every figure, shows the influence of a mind which

* "Handbook of Painting: the Italian Schools." Based on the Handbook of Kugler. Originally edited by the late Sir Charles Eastlake, F.R.S. Fourth edition. Revised and remodelled from the latest researches, by Lady Eastlake. London: John Murray.

was ill at ease. His moroseness got the command of him. In spite of all the noble qualities which he must have possessed, in this picture he shows none of that pity which one mortal must feel for his fellows; the apostles clamour for revenge, the martyrs gloat over the lost and parade their own instruments of torture, the angels tumble about with the cross and pillar like Cupids in a scene from Olympus. Amidst all the figures there is no counterpart to the angel in the fresco of the Judgment in the Pisan Campo Santo who, regardless of his office, sinks down appalled at the sight of the misery around him. Even Dante, after all his wrongs and suffering, had a more tender feeling. The same disposition which led Michael Angelo, in this fresco, to disregard tradition, by making the principal characters appear to be governed by revenge rather than by justice, led him also to sacrifice all accepted rules of what was art and what was not to a display of his own ability to represent the human form in all imaginable positions. He appears to have acquired a knowledge of anatomy through his solitary study, and, like most men who are self-taught, he was something of a pedant in the display of what he knew. The figures in the Sistine may have inspired Raphael with vigour, but, even more powerfully than the cloud-borne saints of Correggio, they led the way to later figures which are so successfully foreshortened, that the spectator carries away from them nothing but a dim remembrance of drapery, the soles of feet, and upturned nostrils.

The chapter on Raphael in the former editions of Kugler used to commence with Vasari's overdone eulogium. This is now omitted, and the editor substitutes the following criticism, which is far preferable:—

"There is no need to depreciate other painters in order to exalt Raphael. The character of his pencil, its versatility and its purity, are sufficient signs of his marvellous endowments. No master has left so many works of the highest rank in Art—no other so little that is defective or unattractive. He represents a purity and refinement of feeling and form unattained before and unequalled since, and in the combination of which with power of hand and grasp of mind he stands alone. Yet Raphael may be said not to have been so new in his qualities as so perfect. He was therefore not a master who could be successfully imitated. He possessed those evenly-balanced and exquisite qualities which admit not of the more, and vanish with the less. Just what he deepest felt and best executed in his *chefs d'œuvre* delights us: nothing stronger, nothing weaker. He stood exactly on that eminence which leads downwards, on either hand, to insipidity or exaggeration. His refinement became weakness in some of his followers—his strength, coarseness, in others; so that among some of the most unattractive mannerists may be quoted several who attempted to walk in his steps. As compared with his great predecessors, Leonardo da Vinci and Michael Angelo, his distinguishing excellence may be summed up as that of an harmonious beauty of expression, colour, and form, neither so thorough in execution and modelling as the first, nor so original, powerful, and subjective as the second."

The scholars of Raphael preserved little of his spirit. Giulio Romano, the chief among them, however useful he may have been as an assistant, had no merit of his own.

The history of painting in Italy is yet so incomplete that it has been found impossible to tell how, or by whom, so popular an artist as Correggio was trained, or to assign his relation to any of the schools. It is probable that he never visited Rome and could not have seen the Sistine frescoes; but Michael Angelo did not depart farther from the traditional methods of composition, or present a more novel interpretation of sacred story. Judging from what he has left, severity of line in figure or drapery and architectonic arrangement were beyond his powers, but who can say what would have been possible had he not been cut off so early; there is, however, undoubted grace in all his works, and he is entitled to the praise of being the first to display fully the advantages of chiaroscuro. On the other hand the ease with which his style was imitated shows the weakness that was inherent in it in spite of all its beauty. It is said of him:—"Correggio has been justly admitted as a worthy competitor with the three great masters of the Florentine and Roman schools. Not so, however, if the higher elements of beauty and dignity, of ideal grandeur, of form and intensity of expression, be pronounced the exclusive objects of art, for in these respects, especially when compared with Raphael, he was often deficient or mannered; but granting him to be thus far immeasurably inferior to these masters, he must still be considered the creator of a sphere of such power and splendour that no position short of the highest can be assigned to him. He seized upon that niche, which, even in so redundantly rich a period of art, was still unoccupied, by venturing to depict, as it were, the very pulses of life in every variety of emotion and excitement; till, in the luxuriance of his ardent representations, the beauties and the faults, the high poetry and the low earthliness of his productions are indissolubly united."

Correggio is supposed to have removed to Mantua (where he first saw the works of Mantegna) in 1511, in order to escape the plague. Of that same plague Giorgione died in Venice in his thirty-fourth year, as was truly said, "to the no little injury of the art of painting." He is an example of the despotism of genius in conquering previous convictions in the minds of others. His pictures are full of anachronisms and inaccuracies, but such is their charm that no one has an eye for the defects. He may introduce nude figures in a concert champêtre of Venetians, or present the nobles of his day in any character he chooses, but the eye cares only for the fine drawing and colour, the beautiful landscape backgrounds so different to what can be found in other works of the time, and the feeling of repose which is usually suggested. Yet his reputation has now to depend on but a few of his works scattered over the galleries of Europe. The scenes he painted on the fronts of some Venetian houses have nearly all faded. Lady Eastlake says of Giorgione:—

"No painter's reputation stood higher in his own life, or has remained more steadily at the same elevation to the present day; yet, of the numerous works which have borne his name, many have perished, many are missing, and of those that remain but few can be indisputably assigned

to him. His greatness—unlike that of delicate, spiritual expression, or exquisite grace of outline—was of a character readily caught by his cotemporary contemporaries and inferiors, and thus the discrimination of his works from those of his time, and through all the injuries of neglect and restoration—injuries most damaging to his peculiar qualities—is a task of delicate and mature connoisseurship; for history is sparing in records of this painter, and the traditions which have taken their place are overlaid with fable. Excellence, therefore, in the qualities characteristic of this master becomes the standard by which a Giorgionesque work can alone be judged."

Sebastian del Piombo, it is well known, was one of Giorgione's scholars, and by removing to Rome and connecting himself with Michael Angelo and Raphael he forms a link between the Venetian and the Florentine schools.

Titian is believed to have been born in the same year as Giorgione, and was fellow pupil with him under John Bellini, but he is supposed to have lived until his ninety-ninth year, painting until the last. As a chronological arrangement of Titian's works is not yet possible, they are classed in groups in the Handbook, and according to the nature of the subject. First are the altar pieces. Of these the principal is the *Assumption*, now in the Accademia at Venice, which was so blackened with the smoke of candles and partially burnt that the French Commissioners supposed it to be not worth the trouble of transporting to Paris. Then there are such paintings as the *Pesaro Family*, in the church of the Frari, and the *Cornaro Family* that was in Northumberland House, in which are represented groups "of high birth and aristocratic forms, occupied in the performance of a solemn function and elevated by the presence of the divine and sainted personages into the rank of sacred art, which belongs to a class of works carried to their highest development by Titian." Among other examples in this group are *The Entombment* and the *Crowning with Thorns* in the Louvre; the *St. Peter Martyr*, which was destroyed by fire in 1866; the *Presentation*, now in the Venice Academy, and the *St. Jerome* in the Brera. The second group would comprise mythological subjects, like the *Bacchus and Ariadne* in the National Gallery (which was one of a set of four painted for Duke Alphonso, of Ferrara), the *Diana and Actæon* and *Diana and Calisto* in the Bridgewater Gallery. Of the picture in the National Gallery it is said: "The creation of the *Bacchus and Ariadne* may be said to make a third with that of Shakespeare's 'Midsummer Night's Dream' and Milton's 'Comus,' each given in their own proper language. Here the beauty of the landscape—the heat of the atmosphere—the ardent action of the young god, leaping, with fluttering red robe and one foot suspended in air, from his leopard-drawn chariot, the headlong flight of Ariadne, the rabble rout, infant fauns, drunken old satyrs, beautiful women 'dropping odours, dropping wine,' with clustering vine, tambourine, barking dog, &c.; all this forms a whole so perfect in itself that the mind consents to its reality as to that of an historical picture." Venus was the subject of many pictures by Titian. Then there are numerous fancy female portraits which, under various disguises, afforded opportunity for the delineation of youth and beauty, and the portraits of men, in which he is supreme. The editor's remarks on the character of his paintings show fine discrimination:—

"Titian was born in grand Alpine scenery, amidst a sturdy and vigorous race, and it is in the combination of these antecedents with the gorgeous colour and stately forms of his Venetian life that we trace that breadth of qualities so conducive to the development of art, in which he takes precedence before every other painter. Where else do we find that sense of nature's wildest scenes and moods—mountain and crag, sky and storm—united with the forms of the noblest thought, sweetest beauty, and richest accessories of human intelligence and culture? If Titian did not aim at the loftiest pinnacles of spiritual expression and grace, he at all events was the first to throw open a larger territory for human sympathy and enjoyment. Two forms of nature especially courted his pencil—landscape and portraiture—and in each he has revealed to the world treasures of truth and poetry not worked out before; for Titian is not only the painter of humanity in its larger distinctions—in the beauty of woman, the dignity of man, and the artlessness of childhood—but he is especially the delineator of all three, under every aspect of the high-born and the affluently-placed classes of society. The intellectual, the noble, and the splendid—the well formed, the well fed, and the well dressed—were the natural subjects of his art; he scarcely turned the other side of the shield to view. His type, accordingly, of Christ, of John the Baptist, and of the Magdalen—characters in whom the pride of life and the abnegation of self are incompatible qualities, though the first is rendered benign, the second stern, and the third in tears—cannot satisfy those who look for the realisation of a sacred idea."

The Venetian school endured the longest of any in Italy, and Tintoret and Veronese, who sustained its reputation until the end of the sixteenth century, are, from some of their paintings, entitled to rank with the masters of the best time. But eventually a decline came here as elsewhere. Then followed the degenerate days of the Mannerists, from which neither the efforts of the Carracci, with their recipes for making a good painter, nor of the Naturalists, with their swaggering chief Caravaggio, could fully restore the art.

The history of painting in Italy, in former editions of the "Handbook," closed with these words:—"Italy, once blessed with the noblest creative power, once gifted with the liveliest perception of the beautiful, now only dreams of past renown. The Arts have quitted her to seek a new home in other lands." But since this was penned a new era has begun for that country, which, with freedom, may again restore the spirit which, in the old days, found so noble an expression in art of every class. The editor of Kugler shares in the general hope, and now concludes by saying that though the Italians have tasks before them more earnest and urgent than the cultivation of the Arts, yet that the rising artists bid fair to stand upon the same level with other modern painters, an expectation which must be shared in by all who can remember how much Europe owes to the Italian schools of painting.

ROYAL ENGINEER PROFESSIONAL PAPERS.—II.

THE first Paper in the new volume is by Captain Gun, R.E., the subject being the "Drainage of Windsor Castle." The author, at the request of the Commissioners of Inland Revenue, was associated with Mr. William Manies, C.E., the Deputy Surveyor of Windsor Park and Forest, in preparing the plans and in the superintendence of the works. As in our ninth volume we gave a Paper read by Mr. Menzies at the Institute of Surveyors in which the works were fully explained, we need not, however, here further refer to Captain Gun's description, although from its thoroughly practical character it is well worth the attention of those who may have to undertake drainage works of a similar kind.

The next communication is a reprint of a very useful Paper that was read by Major Seddon, R.E., in April, 1872, before the Institute of Architects, on "Our Present Knowledge of Building Materials and how to Improve it," but as it has already appeared in our columns there is no occasion to dwell on it now.

Paper III., on "The Engineer Attack upon Large Fortresses," translated from the German by Capt. F. C. H. Clarke, R.A., is beyond the province of our peaceful columns.

In Paper IV. Captain T. Fraser, R.E., gives an interesting account of different forms of temporary suspension bridges, such as are capable of being brought into use for military purposes, with detailed descriptions of the best methods of putting them together, as ascertained from frequent practical trials made at the School of Military Engineering, Chatham. The materials required in each case, and the stresses, as ascertained both by calculation and by experiment with an hydraulic dynamometer, are also given, rendering the contribution most complete, and worthy of careful perusal by all who are likely to be at any time engaged on such operations; but to be of any value the Paper must be read *in extenso*. So we will pass it by, as also Paper V., on the "Results of Experiments in Breaching, by means of High Angle Fire, made at Grandenz, 1873," by the same officer, and go on to Paper VI., entitled "Description of Royal Engineer Institute, Chatham," by Major Marsh, R.E.

In consequence of the strides which have been made of late years in the education of the army, and the increasing importance of scientific training, the accommodation at the head-quarters of the Royal Engineers at Chatham appears to have become quite inadequate to the influx of officers from all corps, who are sent to pass through prescribed courses of instruction. On the recommendation of the Royal Commission on Military Education, a sum of 21,000*l.* was accordingly voted to provide class-rooms, laboratories, lecture theatre, &c. The plans for the Royal Engineer Institute were drawn by Lieut. Ommamey, R.E. The tender of Mr. George Sollitt, of Strood, was accepted in November 1871. In May 1872 the foundation stone was laid by H.R.H. the Duke of Cambridge. We are told that the building is Italian in style, the details of the main front being somewhat freely treated, in order to give scope for the employment of terra-cotta, instead of stone, in the whole of the ornamental work, except the upper members of the cornices, and the columns of the entrance. The terra-cotta was supplied by Messrs. Doulton, of Lambeth, but we believe that considerable difficulty was experienced (as is invariably the case when terra-cotta is employed for decorative purposes in the constructive parts of the building) in keeping the contractor supplied with the material, as fast as it was required to be built into the work. This, as well as the uneven lines of the running members, arising from twisting in the process of burning, and the difficulty of making good damages after fixing, will always tend to prevent its general employment for building purposes.

Without criticising too closely, we feel inclined to suggest, from a heliotype view given of the front, that a fairer distribution of the Corinthian columns over the main entrance might have given an emphasis, which is wanting, to the entrance doorways, and saved them from the appearance of military files of columns ordered to block-up close. We imagine that the effect would be much enhanced if the rear columns were ordered to face about and march down stairs, where, if no work could be found for them worthy of their size and importance, they might at any rate do the duty of colossal mutes keeping guard over the portals. The details of the cornice, as given in a heliotype, also lead to the remark that minute detail, even in moulded terra-cotta, is out of place when the distance to which it is removed from the eye prevents its being appreciated. In such parts the work should be bold and telling. The spandrels and keystones of the three entrance doorways were exhibited by Messrs. Doulton, at the Vienna Exhibition, as specimens of ornamental terra-cotta applied to building purposes. The front of the building, up to the first-floor line, is faced with white Suffolk, every fifth course being of terra-cotta dentils, a string course of the same material separating it from the first-floor, which is faced with yellow malms. The chimney stacks are of Portland stone, though we should have thought that the caps, at any rate, would have been in terra-cotta. The building consists of two parallel blocks about 45 feet apart, and joined at the centre by a large lecture theatre, on both sides of which is an enclosed court. The main front is broken up into a central block and two wings, each being about 80 feet long, or about 240 feet in all. The first-floor of both front and rear blocks is chiefly occupied by halls of study for officers, and instructors' rooms, whilst the ground-floor is mainly devoted to the assistant instructors, and halls of study for non-commissioned officers and men. In a half-basement to the front block, are the laboratory and schools for printing and lithography, the photographic school being in the rear block, with a printing-room on the roof. The library, museums, and committee-rooms are in the north wing of the front block.

The foundations, which are of blue lias lime concrete, rest on sands and loams of the plastic clay series, immediately overlying the chalk. Throughout the work General Scott's selenitic mortar was used with the best results; for the body of the walls in the proportion of 6 to 1, and 4 to 1 for striking the joints. The rendering of the walls, and plastering of the ceilings, was also done with selenitic lime. We should have been glad if the reason had been given for not using the selenitic lime for the con-

crete in foundations, as, if there is any advantage to be gained by making selenitic concrete, it would certainly have been at Chatham, where they are so close to the Halling lime—which is said to be the best for the selenitic process—and so far removed from the lias formations.

We now pass on to Paper VII., without, however, stopping to discuss its merits. Its title is "The Scale of Shade Simplified," by Captain J. A. Miller, R.E., and it certainly impresses the casual reader with the perfection arrived at in the delineation of the features of the ground, by rapid field sketchers, when we find so much importance attached to the difference between two contoured sketches placed side by side, one shaded by the new scale proposed by Captain Miller, and the other by the authorised scale of shade. Beyond a slight difference in touch, the one appears to be a facsimile of the other, but, as one is produced by using strokes of 8 different degrees of thickness, whilst the other confesses to only 3, we should advise the adoption of the latter, as we believe that in 99 cases out of 100 the result of a field sketch would be the same, whether the sketcher professed to use 8 different strokes or only 3 in filling in his contours.

Paper VIII., by Capt. Frazer, R.E., gives the results of "Experiments on the Holding Power of Earth and the Strength of Materials." Those on the holding power of earth have special reference to land-ties or anchorages, such as are used in the construction of temporary suspension bridges, &c., consisting of logs of timber sunk in the ground—either laid along the bottom of a trench, or fixed with their heads above the surface—as well as of pickets driven into the ground. The experiments were made in various kinds of soil, and the force was applied at different angles by means of levers. The calculated forces were checked, both by counterpoising the levers, and by hydraulic dynamometers fixed to the drag-chains. The results of these experiments have been tabulated, but for a proper understanding of the facts, the table, sketches, and description must be studied together.

Ropes were tested for the purpose of ascertaining (1) the relative strength of certain fastenings; (2) whether a rope is stronger wet or dry; (3) whether the loss of weight in an old rope is any guide as to the loss of strength; (4) the relative resistances of ropes to stretching. In the case of the wet and dry ropes, no definite advantage can be claimed on either side, though the balance inclined in favour of the dry ropes, whilst no relation could be perceived between the loss of weight and strength in ropes. With regard to the stretching of ropes, the experiments went to show that for large new hemp hawsers, fit for temporary suspension bridges, the stretching is nearly $\frac{1}{10}$, $\frac{1}{15}$, and $\frac{1}{20}$, under loads of $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$ the breaking strain; but that smaller ropes stretch only $\frac{1}{10}$ to $\frac{1}{20}$ as much, under similar strains; coir-hair or cocoa-nut fibre ropes stretching three or four times as much as hemp ropes.

From the experiments on the resistance of green timber to cross-breaking, it would appear that green larch is about $\frac{1}{10}$ weaker than when left to get dry, whilst oak is about $\frac{1}{2}$ weaker when green. In green wood the fibres in tension appear to yield first, whilst, when dry, the failure always begins by the crushing up of the fibres in compression.

Paper IX., on "The Recent History of Explosive Agents," by Professor F. A. Abel, F.R.S., gives a lucid account of the attempts which have been made to find a substitute for gunpowder, one which would be equally certain in its action, and, at the same time, less liable to accidental explosion, and damage from damp, and also less bulky. Compressed gun-cotton he places at the head of the list, but does not consider that we have yet obtained sufficient control over it to warrant its application to military weapons; and he goes even so far as to say that it does not appear probable that it "will ultimately prove susceptible of safe application in any larger artillery than field-guns." This, we think, is going a little too far, and prescribing limits to future discovery which are not warranted by our experience of the past. The Paper is a long one, and carefully prepared, but as the whole question has been exhaustively treated in the report of the Committee on Explosives, not long issued (of which Professor Abel is a member), those of our readers who wish to master the subject should go to the fountain-head for their information.

Paper X. is a "Report on the Demolition of the Wreck of the Steamer *Kate*, at Harwich," furnished by Capt. M. T. Sale, R.E., under whose superintendence the work was successfully carried out. The *Kate* was about 90 feet long, and had foundered in the winter of 1872-3 about 5 miles outside Harwich harbour, where the water at low spring tides is only about 4½ fathoms deep; and, as it was lying nearly in the course of the Harwich and Continental steam packets, it was important to remove the obstacle, although the wreck had been buoyed by Trinity House, and was, to a certain extent, visible by the boiling of the water when the tide was sweeping strongly by it. Notwithstanding the exposed position of the wreck, off the Eastern coast, where the water is seldom smooth, and the impossibility of working at it except during the hours of fresh water, owing to the strength of the tide, the divers succeeded in surveying its position, and in course of time 10 charges of damp gun-cotton, fired by primers of dry gun-cotton, were got in position on the port and starboard sides of the vessel, by sliding them down ropes attached to heavy sinkers, which were dropped down to the required spots—the charges being, in most cases, finally adjusted by the diver. The charges were made up of from 50 to 100 lbs. of damp gun-cotton, and were fired simultaneously by means of one of Von Ebner's friction machines. The explosion did its work well, so that when, subsequently, the site of the wreck was swept by means of a weighted spar sunk to a fixed depth, only two portions, at the stem and stern, were found to be still projecting about 7 feet above the bottom, and these, by lowering two more charges, were cut down, so as to leave, in 4½ fathoms at low spring tides, a minimum depth of 23 feet over the bow and 25 feet over the stern.

Paper XI., by Capt. T. Fraser, R.E., gives an account of some "Demolition Experiments made with Dynamite, Gun Cotton, and Gunpowder, at Grandenz, in August 1873," the general results appearing to show that the dynamite was a little more powerful in its action than the compressed gun-cotton, but that the latter possessed other points of superiority which

rendered it more suitable than the former for military demolitions. The German officers considered that the fumes given off by dynamite were apt to be injurious in the open air; and we can therefore quite understand that its use in mining operations might lead to serious accidents, from the men having to work through ground impregnated with the poisonous gases given off by the explosion of large charges of dynamite.

The two last Papers, on "The Straightening of a Brick Chimney Shaft in the Royal Arsenal at Woolwich," and on "The Practical Application of Portland Cement Concrete," are deserving of a longer notice than we could compress into this article.

PROFESSOR BARRY'S LECTURES ON ARCHITECTURE.—II.

DELIVERED AT THE ROYAL ACADEMY, ON MARCH 1.

IN my last lecture I asked you to examine with me a theory put forward as a basis of prophecy for the future. I now propose to cast our eyes backward on the past. It will be our task to-night to remember that this year marks the completion of a fourth century since the birth of a great master, and mighty artist, and to devote ourselves for a time to a consideration of the events of his long and honourable career. We hear so much nowadays of natural laws, averages, and systems, by the side of which mere individual efforts are futile as a fly on the wheel of some vast engine, that it may not be without advantage to us to dwell sometimes on the lives of those great men whose names shine out so brightly in history, and who have made their mark on the annals of their time. Such a one was Michael Angelo Buonarroti. There are names which bear with them a magic charm, and his is one of them. Sculptor, architect, painter, and poet, as well as patriot and politician, he seems, as we look back, to stand out more and more, in any picture we may frame for ourselves, of the times of the Italian Renaissance.

Michael Angelo was born, as I have said, just four centuries ago. In these 400 years what important changes have occurred! States have arisen, and have been blotted out. The old world has burst its bounds and discovered a new one. Religions have altered their course. Everywhere there has been change, and yet the name of Michael Angelo retains its charm, as when the impatient Romans of his day rushed to the Sistine Chapel to admire his last new work. It is the almost divine prerogative of art to know no change, and to preserve its principles universal, immutable.

We shall see hereafter that Michael Angelo was a good citizen, as well as a noble artist; a Florentine first, and a sculptor afterwards. In his days, none could have dreamt of the United Italy, which has but lately arisen under our eyes, where politicians have seen for ages only a "geographical expression;" but we shall find him devoted to the freedom and independence of his darling Florence—Florence the beautiful, and the proud.

Let us glance for a moment at the state of society into which Michael Angelo was born. From the thirteenth century, rival parties in Florence had been fighting for the mastery, Guelphs and Ghibelines divided themselves into opposing camps, and shared the vicissitudes of victory and defeat.

These titles became in time mere party nicknames, and lost their original meaning. They arose in Germany, and are said by some to have been first known in the twelfth century at the battle of Winsberg, in Suabia, between two rivals for the Imperial throne, Conrad, Duke of Franconia, and Henry, Duke of Saxony, of the house of Wölff. A corruption of the latter name became the rallying cry of the partisans of Henry, while the soldiers of Conrad took their opposing title from Weiblingen, a town of Würtemberg, the patrimonial seat of their leader.

It was not, however, till about the year 1240, on the excommunication of Frederic II. by the Pope, that the names of Guelphs and Ghibelines were generally adopted in Italy, the Guelphs supporting the Pope, and opposing the Imperial authority, which was upheld, more or less, by the Ghibelines. In later times the Ghibelines were regarded as the supporters of the aristocratic principle, while the Guelphs professed an admiration for a more popular form of Government.

Such were the parties Michael Angelo found contending for supremacy in his native country. Let us now inquire for a moment what was the state of society, and morals.

It was a time of general corruption in high places, of treachery, poisonings, and violence. Petrarch, in one of his letters on Rome, writes:—"Such is the modern Babylon, whatever of perfidy or fraud, whatever of cruelty and pride, whatever of impurity and unbridled licentiousness, you may have heard or read of, whatever of impiety and of the vilest manners the world has elsewhere witnessed, you will behold all such evils accumulated in fullest measure here." "Here in Babylon all that is good expires. In this kingdom of avarice, nothing is deemed a loss excepting the loss of money." "What is told us of hell, is treated as fabulous: the resurrection of the body, the end of the world, the coming of Christ to judgment, are esteemed fables. Here truth is deemed folly, abstinence rusticity, chastity a signal reproach, licence in sin, magnanimity and praiseworthy freedom."

This language can, it is to be feared, be hardly called exaggerated, and it reveals a state of things at the Papal Court which doubtless contributed, in no slight degree, to that cry for reform which echoed over Europe at the beginning of the fifteenth century, and which (raised previously by Wycliffe in England), was then taken up in Bohemia, Moravia, and Germany, with such important results to the world at large.

The sovereign Pontiffs, at this time, seem to have merged the priest in the king, and to have hesitated at no means to compass their plans of State. Sixtus IV., and his successors, Innocent VIII. and Alexander VI., under whom the childhood and early manhood of Michael Angelo were passed, stand out in a bad pre-eminence, even amongst their not too scrupulous contemporaries. Conspiracies, assassinations, and vicious indul-

gences mark their reigns, and it is well known how the last of them, Alexander VI., with his natural son, Caesar Borgia, made his name a by-word of infamy, and finally perished by poison treacherously prepared by him for another.

From this brief account of the social corruptions of his day, it may well be imagined how fraught with peril must have been such a state of things to the character of young men entering life like Michael Angelo. Himself of noble descent (for the Buonarroti, or, as they called themselves, the Buonarroti-Simoni, were among the most distinguished Florentine families), he would naturally have plunged into the dissipations around him, had it not been for the proud uprightness of his character, which was fostered by the influence of a great reformer, and most remarkable man.

This man was Savonarola, a patrician by birth, a priest by profession, and a reformer by conviction. An ardent enthusiast, he preached with the zeal of an ancient prophet, pointing to Rome as the mystic Babylon and mother of abominations. Austere and incorruptible, he denounced the impurities of the cloister, the corruptions of the church, the tyrannical cruelties of the State. His speech, at first marred by an infirmity, like that of the Greek orator of old, at length electrified such congregations as had never been seen before.

Led by the occurrences around him to take a lead in politics, the aim of Savonarola seems to have been to establish in Florence a theocracy, in which religion and law should be one and the same, very much as was contemplated by our own Puritans. His burning zeal made him many enemies, and betrayed him occasionally into extravagance. An instance of the latter was the destruction of works of art; which he induced his followers to devote to the flames, in the public place opposite to the palace of the signory in Florence, so well known, doubtless, to many of you. From the corruption of the times, there can be little doubt that some of the pictures and books and other works thus condemned by wholesale may have deserved their fate; but when we read that Frà Bartolommeo was so carried away by enthusiasm, that he brought his life-academy studies to be consumed on the pyre, we cannot but regret that the story of Savonarola's noble life should be disfigured by this outbreak of monkish bigotry in opposition to taste and genius.

I must not, however, dwell on the intensely interesting life of Savonarola, which was spent in the denunciation of the vices of the town, and of the iniquities of the Papal court. His end soon came. Excommunicated by Pope Alexander VI. in 1497; deserted by friends; and insulted by a sickle populace; he was strangled and burnt, in 1498, in the Piazza dei Signori, now the well-known Piazza Gran. Duca, in the forty-sixth year of his age.

Such was the untimely end of this great reformer; but his work did not perish with him, nor the powerful influence which he exercised on some of the best artists of his day. Notwithstanding the indiscriminate character of the artistic burnt sacrifice already referred to, Savonarola was not destitute of appreciation of artistic beauty. He had devoted followers among artists and their families, and among his earliest adherents was Frà Bartolommeo, whom we have already seen devoting his works to the flames at the bidding of his friend. This great artist was so deeply affected by the tragical fate of Savonarola, that he renounced his art, and buried himself in a cloister, whence all the entreaties of his admirers were needed to induce him to emerge, and resume his artistic pencil.

I must do no more than mention Lorenzo di Credi, with Luca della Robbia, and Andrea his nephew, as among the disciples of Savonarola; also the architect, Cronaca, who crowned the Strozzi Palace with its massive cornice.

The young artist was about twenty-four years old when Savonarola was put to death, and we may believe that his character was greatly influenced by the teaching of the great preacher. We are told, indeed, that Michael Angelo ever regarded his memory with affectionate veneration, and that in his declining years the Holy Scriptures, and the writings of Savonarola, were his favourite study.

It was into this stormy condition of affairs that Michael Angelo was born, and in which he lived. Let us now trace some of the principal events of his life.

The day of his birth was March 6, 1475, and the place, the Castle of Chiusi and Caprese, of which his father was governor for the year. His father, Ludovico di Leonardo Buonarroti-Simoni, was sprung from an ancient family, being descended from the Counts of Carrozza. The mother of the future artist was Francesca Rucellai.

On the return of his parents to Florence, on the expiration of the elder Buonarroti's year of office, the infant Michael Angelo was put out to nurse with the wife of a stonemason, living a few miles from Florence. In after days, when spectators used to marvel at the energy of the young sculptor, who made the flakes of marble fall under his chisel with astonishing rapidity, Michael Angelo used jestingly to refer to the circumstances of his infancy, and would declare that he imbibed a love for the chisel and mallet with his foster-mother's milk.

It is clear that the artistic tastes of the future artist were early developed, and that somewhat against the wish of his parents, who were disposed to regard with dissatisfaction the devotion of one of their sons to a profession, which they seem to have regarded as derogatory to patrician lineage. Family pride and even personal harshness was, however, of no avail. The lad of fourteen gave even then a foretaste of the strong will of later days, and, happily for art, Michael Angelo remained steadfast, and on April 1, 1488, was articled to Ghirlandajo, at that time an artist of note, and having many pupils and a large practice.

This was the real commencement of Michael Angelo's artist life, and his genius was not long in showing itself unmistakably. He was encouraged in his ardour by a friend and fellow-pupil, Granacci, a youth about five years older than himself, and to whom he turned for encouragement and advice.

According to Vasari, the two friends were working one day at the Academy of St. Marco, at Florence, when the attention of the reigning Duke Lorenzo de Medici was attracted to the head of a fawn which Michael Angelo was imitating from an antique model. Looking kindly on the young artist, the Duke said, "How is it you have given your fawn a com-

plete set of teeth? Don't you know that such old fellows are sure to have lost some of them?" Next time Lorenzo saw the bust some of the teeth had been removed, and their sockets cleverly displayed. The Duke being pleased with this courtier-like appreciation of his criticism, inquired the name and age of the sculptor, and ended by taking the youth under his especial patronage. This was the beginning of the public life of Michael Angelo, who from that time became habituated to the intercourse of the leading men of his time.

But Michael Angelo was well aware that the smiles of the great would be of little avail, if he did not master the principles and details of his art, and we find him, at this time, not only drawing, painting, and modelling, but also deep in the study of anatomy and the uninviting mysteries of the dissecting-room. He thus gained that marvellous knowledge of the human frame which hereafter distinguished his works.

He soon made great advances in his studies, and seems to have incurred some ill-will from the envy of his fellow students, for one of them, Torrigiano, having insulted him, an encounter followed, when an unlucky blow from his antagonist broke the bridge of Michael Angelo's nose, and disfigured him for life. We can form an idea of the favour in which he was held at this time, from the anger of Lorenzo with Torrigiano, who was at once banished, while Michael Angelo grew daily in favour, and took up his abode with his patron.

Lorenzo de Medici was at this time in the plenitude of his power. He had just successfully escaped from a plot against him, known as the conspiracy of the Pazzi, which cost his brother, Giuliano, his life. This conspiracy had been fomented by the reigning Pope Sixtus IV., and it is suggestive of the state of society at the time, that the place selected for the murder of the two brothers was the Church of Sta. Maria dei Fiore, and the time the celebration of mass by Cardinal Riario, one of the conspirators, and a relative of the Pope.

The signal was to be the bell which signifies to the silent congregation that the most solemn mystery of religion is being celebrated. In the tumult that arose, Lorenzo was struck in the neck by a dagger, and though he escaped with life, his brother was less fortunate. Nevertheless the conspiracy failed in its object, the Pazzi family were all annihilated, and Lorenzo's power was more firmly established than before. He was then the better able to turn to the arts of peace, for relaxation from graver duties, and his court became a home for literature, philosophy, poetry, and art. In such an atmosphere we may be sure that Michael Angelo breathed freely, and found ample scope for his genius.

But this unclouded prosperity was not long to continue, for in 1492 Lorenzo died. Michael Angelo was at this time scarcely eighteen years of age, and felt keenly the loss of his powerful friend and protector, whose nobler qualities had not descended to his son and successor, Piero de Medici.

Piero soon gave himself up to sports and pleasure, and among his transactions with Michael Angelo, we are told that he commissioned the latter to form a statue of snow in the court-yard of the palace. It was a time of dissipation, folly, and superstition, and the expulsion of the Medici family was not far off.

Michael Angelo was too keen an observer not to be troubled by signs of coming distress, which escaped the notice of his careless master. The prophetic denunciations of Savonarola were ringing in his ears. The woes announced by the latter seemed about to burst on the devoted city, and likely to involve him in the ruin of the Medici. After some hesitation, he determined to fly, and left Florence for Venice, just before the advance of an invading French army forced Piero, who went out to meet it, to surrender himself a prisoner. All offers and negotiations proving abortive, Piero was allowed by his conquerors to return to Florence, but was soon expelled as a traitor by the infuriated populace.

Michael Angelo did not long remain in Venice. He had at this time but few resources, and his slender funds were soon exhausted. He therefore returned to Bologna, from which he could more readily observe, and take advantage of, any improvement of affairs at Florence. It is said that on his entry into Bologna he got into trouble. Every foreigner entering the gates had to present himself to an officer, who marked his thumb with a seal of red wax. Michael Angelo, neglecting this custom, entered the city with no seal on his thumb, and was consequently arrested, fined, and imprisoned.

From this state he was released by Signor Aldovrandi, a leading Bolognese citizen, who ultimately persuaded him to abandon any intention of proceeding further, and to remain with him, as an inmate of his house. Scarcely had Michael Angelo agreed to this proposal, when his late master, Piero, arrived, with his family, to seek shelter in Bologna, after their expulsion from Florence.

It was at this time that Michael Angelo designed the well-known kneeling angel holding a candelabrum, which is still to be seen at the church of San Petronio, as an adjunct to the shrine of St. Domenicino. This work caused much ill-feeling, as the Bolognese were very jealous of strangers, and Michael Angelo soon determined to return to his native city. Here all was changed; the very name of the Medici proscribed, their art treasures dispersed, and the artist society which gathered around them shattered and dejected. The influence of Savonarola was supreme, and a more than Puritan austerity had succeeded to the gay and careless days of the Medicean rule.

Michael Angelo, however, still found friends, and settled down to his artistic life. A cousin of Piero, Lorenzo de Medici, had remained in Florence under an assumed name, and for him several commissions were executed by the young sculptor. One of these works, a Cupid, for which Michael Angelo received 30 ducats, was sent to Rome, and there sold as an antique for 200 ducats.

The purchaser in Rome was Cardinal San Giorgio; the same Raphael Riario who said mass in Florence as a signal for the attempted murder of Lorenzo de Medici and his brother. The cardinal having a suspicion of the trick which had been played upon him, sent to Florence to make inquiries as to the genuineness of the sculpture. The result was an invita-

tion to Michael Angelo to come to Rome, which the latter accepted. He set out at once, and arrived in the Eternal City on June 25, 1496.

Michael Angelo's first visit to Rome may fairly be regarded as an epoch in his life. He was in his twenty-first year, full of youthful hope and strength, and thirsting for distinction. His delight at what he saw at Rome is expressed in a letter to his patron Lorenzo, at Florence. He found, he says, so many beautiful things, that he had not been able to find time to deliver his letters of introduction, excepting the letter for the cardinal. He had tried to recover his Cupid from the dealer, who had abused his confidence, but in vain, and he had purchased marble, and was about to work on it at once.

Few of us are, I think, unconscious of a spell which the very name of Rome exercises upon us, a spell deepened into enthusiasm by presence in the midst of it. We can the better sympathise with the ardent young artist, so excited by the works of art around him that all his business cares are forgotten.

It may, perhaps, be interesting to try to realise what he saw; for it was not our Rome which Michael Angelo entered. The rock of the Capitol was bare, and he could not have foreseen that group of palaces which he afterwards placed there, and which are to us one of the great features of the city. The narrow streets, thronged by day, were closed at night by chains. From the Capitol there was no sign of modern St. Peter's, nor did there exist any of the countless domes which, to the modern visitor, seem to be associated with the very name of Rome.

The old basilica of St. Peter's was still standing, and squalid houses covered the space now occupied by the great square, with its encircling colonnades, and rushing fountains.

The Vatican, a small and poor commencement of the present huge structure, was dwarfed by the Castle of St. Angelo, then, as now, the citadel of Rome. From his chamber at the Vatican, the Sovereign Pontiff could pass by a covered passage to his castle—a facility not to be deepised when cardinals, with their attendants, might be seen galloping about in complete armour, and corpses were daily to be found in the streets, victims of the dagger or the poisoned bowl.

Such was the Rome of Michael Angelo, as regarded in its every-day aspect. Its old-world life, however, must have been explored by him with absorbing interest. The marvels of old Rome were spread out before him, as before ourselves, and we can picture the intense delight with which each newly-excavated statue from temple, bath, or villa, would be welcomed. Each day would bring to light fresh wonders of art, and seem to link together the Past and the Present.

Michael Angelo remained at this time only about two years in Rome, but before he left it he had established a commanding reputation, although his connection with the Cardinal de San Giorgio was soon terminated—not to the loss, probably, of his fame, or safety.

Some doubt hangs over the works which Michael Angelo is supposed to have executed at this time, but his statues of Cupid and Bacchus are well known.

The great work, however, which stamped him as the first of living sculptors is the celebrated *Pieta*, now in St. Peter's. Other works of Michael Angelo may better reveal his power than this masterpiece, but nothing can test his skill for delineating the softer emotions more than the attitude of the youthful mother bending over her Son, inconsolable, but yet sublime, as his yielding form rests in her arms. A fac-simile of the latter is before you, and the perfection of the details and the grace of the composition combine to mark the whole work as one of the triumphs of plastic art. As such it was regarded at the time, and Michael Angelo's position was at once established. His fame soon spread from Rome to the city which claimed him for its own, and about the year 1500, soon after the death of Savonarola, he was induced to return to Florence.

Resuming his labours with characteristic vigour, he set to work on a *Madonna*, and some other works of sculpture, including fifteen marble statues for Siena, but the work which chiefly marks this period of his career is the famous "*David*."

A great block of marble, 18 feet high, was lying in the courtyard of the cathedral workshops. Originally intended for the colossal statue of a saint for the decoration of the exterior of the church, it had been only partially worked. From some cause the sculptor, Simon di Fiesole, had withdrawn from the work, and the idea had in consequence been abandoned. Michael Angelo was then appealed to, and he undertook to produce a colossal statue of *David* from the block as it stood, and without any addition being made to it.

Two years were allowed for the task, and he at once began on the marble. He is said to have been so eager to commence, that his only work of preparation was a little wax model, and he devoted himself to the statue with such absorbing application that he trusted no hands but his own, and from the first touch, in 1501, to the last, in 1504 (for he was a little beyond the stipulated time), he did the whole of the work himself.

A difference of opinion ensued as to its ultimate position. Some thought it should be placed in the Loggia, others in a church, or in the court-yard of the palace. It is interesting to notice the opinion of Giuliano di San Gallo, then in the height of his fame as an architect. He pronounced in favour of the Loggia, because, he said, the marble was tender, and would be injured by exposure, as has indeed been the case. In this advice he was supported by Leonardo da Vinci, but as Michael Angelo did not approve the suggestion, his views naturally prevailed, and the "*David*" was placed in the square near to the gate of the palace.

Four days were taken in moving the colossus from the sculptor's studio, and on May 18, 1504, it was finally placed in position. During its progress, such was the jealousy with which Michael Angelo seems to have been regarded by rivals, that stones, we are told, were thrown at it, and a guard had to be appointed to defend the statue from the attacks nightly made upon it.

Florence was at this time the centre of the arts, for Michael Angelo,

Leonardo da Vinci, Raphael, with other artists of lesser eminence, were all contending there in honourable rivalry. Michael Angelo had always deemed himself a sculptor before anything else, but he was now induced to enter the lists, as a painter, with Leonardo.

The Florentine Government wishing to decorate with paintings the two great side walls of the council chamber in the Palazzo Vecchio, entrusted the commission for one wall to Leonardo, and that for the other wall to Michael Angelo. Unfortunately for art, neither task was fully executed. Michael Angelo did not proceed beyond the preparation of his cartoon; and Leonardo da Vinci, though he commenced his painting on the wall of the council-hall, never finished it, and the part which was executed faded away in consequence of some defects in the colours, or in the ground, such as those which have so fatally dealt with his "Last Supper" at Milan.

The subject of Michael Angelo's cartoon was suggested by the war which had been raging, more or less, for centuries, between the Florentines and Pisans. The cartoon shows a group of Florentine soldiers, bathing in the Arno, where they are surprised by a sudden attack. It has always been considered a most masterly study of the nude, and Benvenuto Cellini declared that though the divine Michael Angelo afterwards painted the great chapel of Pope Julius, he never again fully realised the force of these, his earlier studies.

The fate of this great work is melancholy, for it seems to have been purposely destroyed, from unworthy motives of envy, in 1512. Vasari attributes this work of Vandalism to Bandinelli, a disciple of Leonardo da Vinci, and in some respects a rival; but however this may be, it is certain that the cartoon was cut into fragments, and mutilated. Some scattered portions found their way to different places, and were afterwards engraved by Marc Antonio and Andrea Veneziano.

There is a copy of the first of these engravings in the "Illustrations of the Genius of Michael Angelo Buonarroti," by the late Commendatore Canina, Professor Cockerell, and Mr. Harford; and I think you will find it well deserving of attentive study. In it, three soldiers are represented just emerged from the water. One is climbing the bank, another leaning over it to offer a hand to a comrade in the water; the third is pointing to the enemy, who is seen in the background, masking his advance through a group of trees. These figures in the original were the size of life, and were drawn in black chalk, with white lights and brown shadows.

It is certain that the cartoon was regarded by his contemporaries as a new triumph of its author, and Vasari attributes to its influence the first inspiration of the grand style of art to Raphael. Sir Charles Eastlake so far agrees in this view as to point out that from the time when Raphael studied the cartoon of Pisa (as it was called), a closer study of anatomy and form is to be seen in his works.

Michael Angelo had now shown his power as a painter, as well as sculptor, while literary studies did not cease to engage his attention. The best prose writers of his country, and the works of the Tuscan poets, were the delight of his hours of relaxation from his heavy artistic labours.

Such were the daily habits of Michael Angelo in Florence in the prime of life, and strength, when he was summoned to Rome by the Pope.

(To be continued.)

COMPETITIONS.

UNDER this heading we propose to give each week, or as often as may be necessary, a brief account of the *conditions* of such competitions as may at the time be open to the profession. In doing so we shall point out what conditions have been framed in accordance or at variance with the rules agreed upon at the General Conference of 1872; beyond this it will not be our province to go, our object being to help the reader to ascertain (more than an advertisement can) whether the *conditions* of a particular competition are likely to meet with his views, rather than to furnish a reprint of such details of requirements, &c., as he must, after all, obtain for himself. The numbers refer to the corresponding paragraphs in the General Conference Rules above mentioned.

Wellington (Somerset) Schools.

The conditions in this case are *throughout* at variance with the rules which we take as our guide. "The decision of the Board will depend in great measure on lowness of cost, and plans whose apparent cost much exceeds 1,000*l.* for the whole buildings will probably not be entertained;" and then comes a curious sentence, "Boundary Walls at per rope," as if it were part of a bill of quantities; and another, which may not be bunkum, although it looks not altogether unlike it, "On account of the large number of Architects proposing to compete, the Board cannot undertake to pay carriage of plans." Accommodation, 255 children and master's house.

Time, not stated in conditions.

Feltham Schools.

An application for the conditions resulted in the receipt of an enormous plan of site, and a lengthy extract from the "Instructions to Architects," issued by the Education Office, Whitehall; we can therefore only refer to the advertisement, which asks for accommodation for 300 children and a master's house.

No premium or employment is offered.

Time, March 13.

ILLUSTRATIONS.

NEW PREMISES FOR MESSRS. GEORGE WRIGHT & CO., QUEEN VICTORIA STREET, CITY.

THESE premises have been just completed for the old established firm of GEORGE WRIGHT & Co., grate and stove and iron manufacturers, of Rotherham, who have removed into them from their former premises in Suffolk Lane, which had become too small for their increasing business.

The building consists of a sub-basement, a basement entered from the Thames Street level, ground floor on the Queen Victoria Street level, and four floors over. The ground and three floors over are devoted to the purposes of show rooms, the top floor is used as work room. The basement is the usual unloading and storing place, while the sub-basement, which is fire-proof, contains the heating apparatus, one of WRIGHT's patent gill stoves, which supplies warm air to the various floors, and heats the building throughout. A lift runs from basement, communicating with every floor.

The whole of the walls and ceilings internally are matchlined and painted, no plaster being used in any part, and a handsome pitch pine staircase leads from the ground to upper floors. The exterior elevation is constructed entirely of Portland stone, the ironwork of balconies, &c., being supplied by Messrs. WRIGHT themselves.

The style is Italian, treated somewhat in the French manner, and the object has been to obtain a substantial, quiet, and business-like character rather than an imposing or striking one.

The architects are Messrs. JOHN GILES & GOUGH, of Craven Street, Strand; the builders, Messrs. COLLS, of Moorgate Street.

REDEMPTORISTS' CHURCH, BROOKLYNE.

WE this week give an illustration of the new Redemptorists' Church at Brooklyne, near Boston, U.S.

The church will be erected of Ohio white and a local stone of a greenish tint.

The plan consists of a nave, double aisles, and transepts, and the building measures over all 280 feet in length by 120 feet in width, and will be 70 feet to the groining, which will be in timber.

At the junction of nave and transepts the walls will be carried up so as to form a lantern 40 feet square, which will terminate octagonally, and will be open to the church.

In addition to the high altar there will be sixteen minor altars.

In addition to the church a monastery for the Redemptorist Fathers is also contemplated.

The building will be erected by the Very Rev. Father FRIDAY, from the designs of Mr. E. WELBY PUGIN, of London and New York.

RELIEFS IN MARBLE BY LUCA DELLA ROBBIA.

THE two reliefs shown in the illustration form part of a series of ten which were for a Singing Gallery in the Duomo of Florence but were never used. It is said that they were executed by LUCA DELLA ROBBIA, in competition with DONATELLO, whose rival reliefs share now the same resting-place—namely, the Museo Nazionale—in the former Bargello, Florence.

THE INSTITUTE LIBRARY.

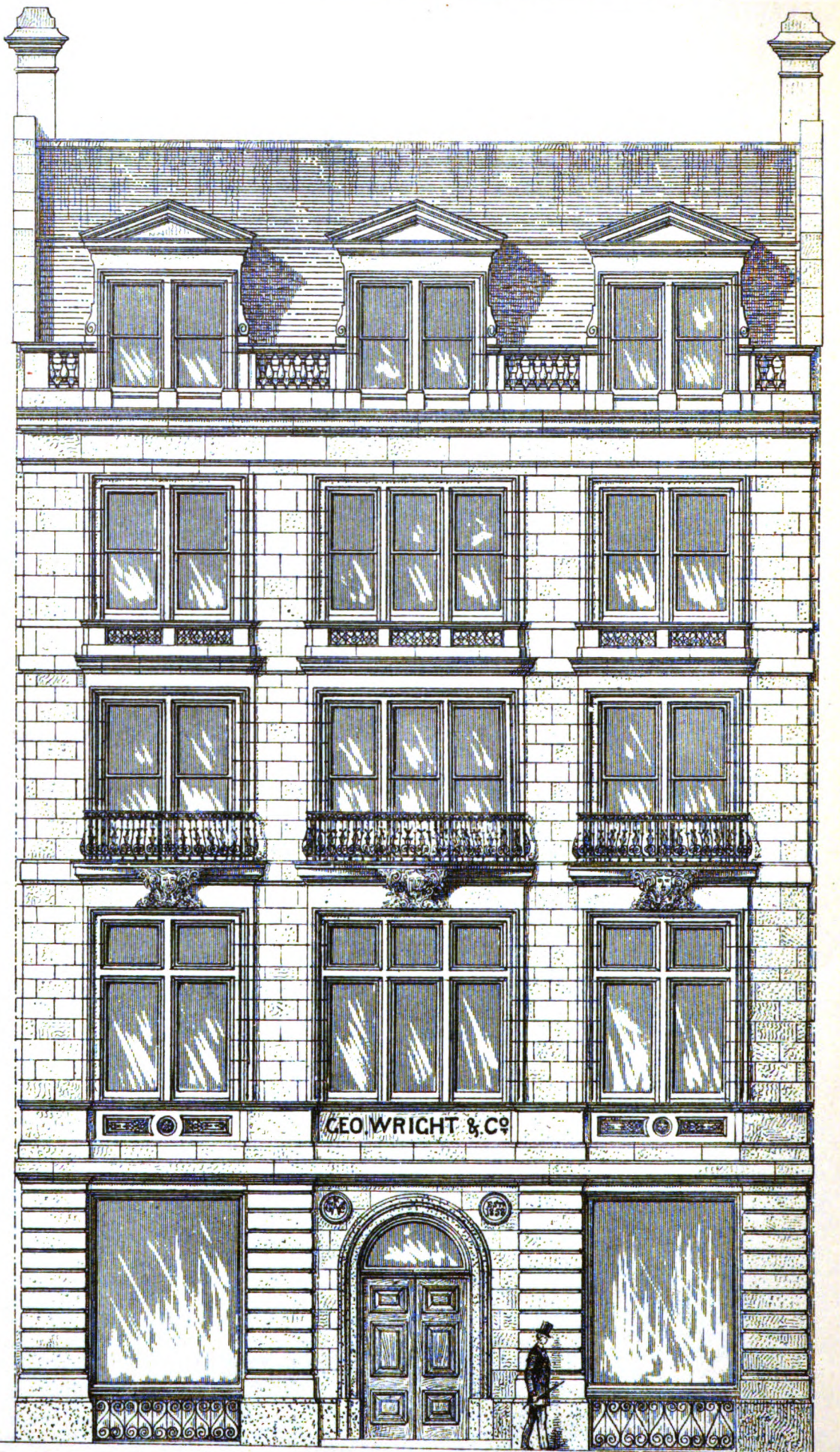
BY permission of the Council of the Royal Institute of British Architects, the members of the Architectural Association Colour Class have the opportunity of examining works on colour decoration, previously to the monthly meeting of that class. The Pompeian, Byzantine, Saracenic, and later styles form the subject for study, and the perusal of books bearing on those styles is of much advantage to the student.

The Institute has lately purchased several important works; among those on decoration, we may name the following:—

- ADAMS. Décorations intérieures des époques Louis XIII. et XIV.
- BOURGAIN. Les arts arabes, architecture, menuiserie, marbres, &c.
- DALY. Décorations extérieures et intérieures.
- GUILMARD. Histoire de l'ornement.
- PFNOR. Ornementation usuelle de toutes les époques dans les arts.
- PRISSE D'AVENNES. L'art arabe.
- QUEVERDO. Décorations intérieures époque Louis XVI.
- RACINET. Polychromatic ornament.

It should be remembered that the evening hours during which the library is open are from 6 to 9, and that this alteration has considerably increased the attendance of members and students in consulting the valuable books, photographs, and drawings.

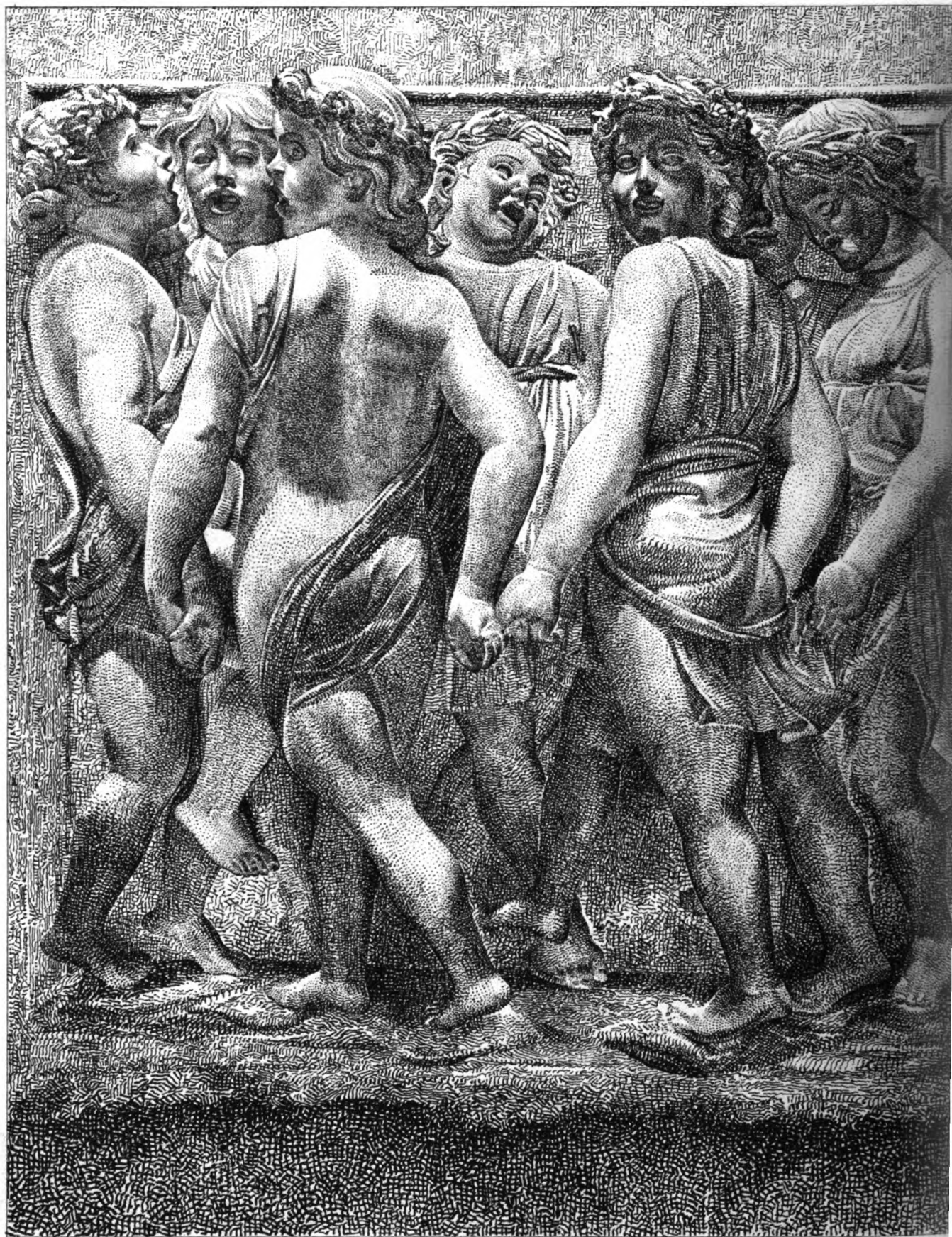




MESS^{RS}. GEORGE WRIGHT & CO^S NEW PREMISES, QUEEN VICTORIA ST LONDON.
MESS^{RS}. JOHN GILES & GOUGH, ARCHT^S.

Designed by W.W. Symonds & Co. London.





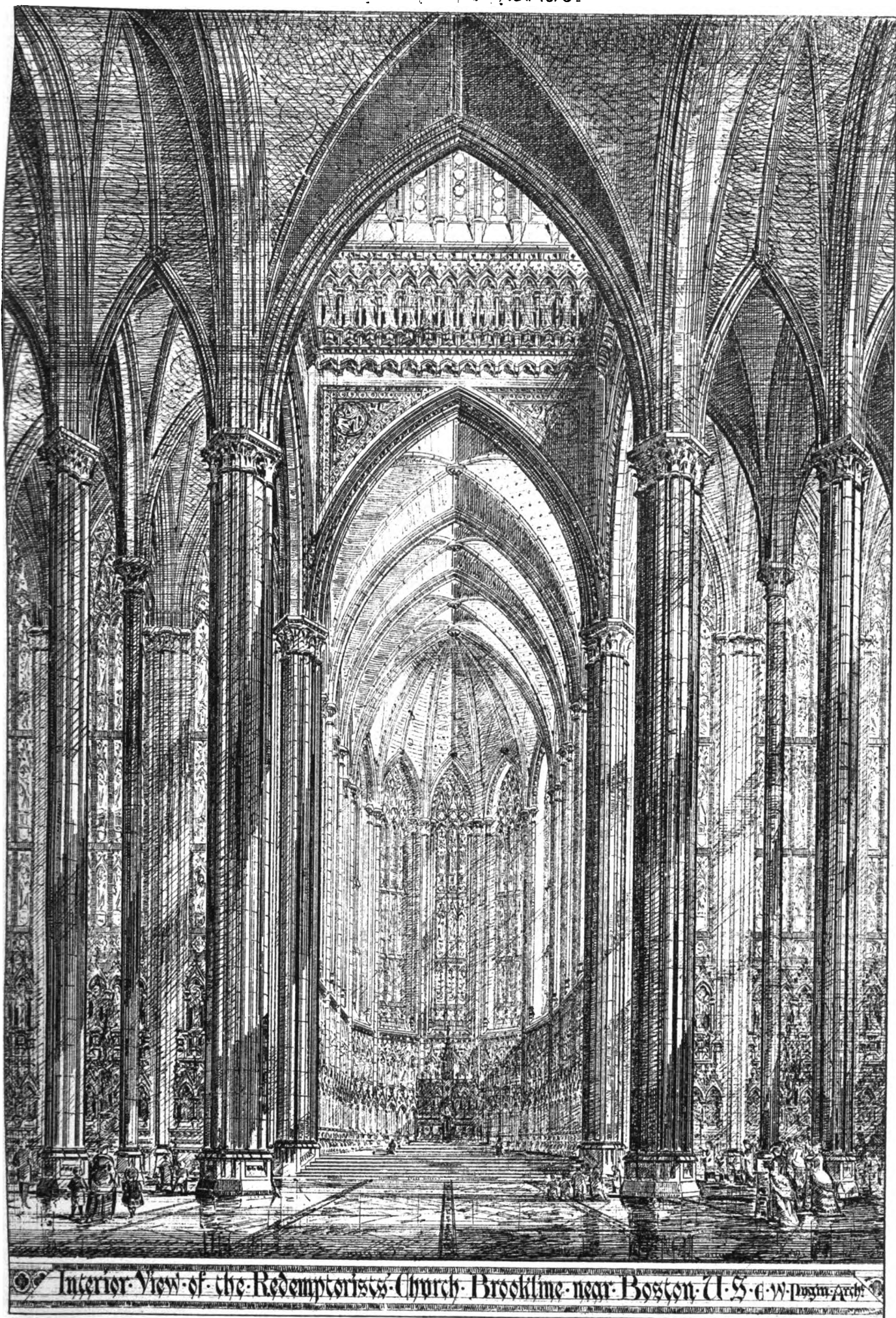
Lithographed by Albert Bettis, Mortlake.



LU CA DELLA ROBBIA.
FLORENCE.)

Printed by W W Spangue & Co London EC





Interior View of the Redemptorists Church Brookline near Boston U.S. W. Pugin Archt

Printed by W. W. Spence & Co. London E.C.



THE ARCHITECTURAL ASSOCIATION.

THE usual fortnightly meeting was held on the 5th inst., Mr. G. H. Birch, President, in the chair. Messrs. G. Riley, W. Noale, and M. Butterfield were elected members. Referring to the approaching architectural examination, Mr. R. Phené Spiers reminded members that the preliminary drawings had to be sent in by the 22nd inst., and a gentleman who had satisfactorily passed the examination was willing to take charge of a class at a nominal remuneration. There would be time for about half-a-dozen lessons in the class, and candidates for the examination would find it advantageous to join, as information would be imparted upon subjects which were not ordinarily found in books.

Mr. Lacy W. Ridge then delivered a lecture on

"Queen Anne," and its Relation to the Gothic Revival.

Mr. RIDGE, in his opening remarks, said that there was a building in Leadenhall Street, extraordinarily piquant and clever, and which, from its picturesque quality, must have attracted the attention of them all. It was a building exceedingly popular with painters, and of a class calculated to excite the astonishment of Lord Macaulay's "New Zealander." There was another building not less extraordinary nor less worthy of study exactly opposite Craig's Court, Charing Cross, their surprise not being lessened when they found it emanated from some one connected with Spring Gardens; and on the Embankment there was a building with a very tall roof in front, low behind (now hidden), possessing wonderful dormers, and associated with architecture which, if not Classic, was certainly not Gothic, but was nevertheless the production of a well-known Gothic man. All over London there were School Board buildings distinguishable by markings in red and curvey gables; and at the west end of the town houses abounded with strange features—the same peculiarities occurring all over the country—and the answer to their inquiries respecting these phenomena was always the same—"Queen Anne." At the last Architectural Conference the one artistic subject discussed was Queen Anne, and in such a state of things it seemed to him that Queen Anne demanded some attention, and having begun to think upon the subject he concluded that it would be convenient and profitable to discuss it at the Architectural Association. He asked himself, how did the movement affect the Gothic revival? Believing that principles were worth something he volunteered a Paper on the subject, and it happened that the committee had also received an offer of a Paper from one of the great apostles or ministers of Queen Anne (Mr. J. J. Stevenson). Arrangements for reading the Papers in succession were made, and although he was under the disadvantage of having only a fortnight in which to prepare his Paper after that read by Mr. Stevenson, he had the advantage of knowing what Queen Anne was—that it was a mere phantom—that Free Classic was what they really had to discuss, and that this movement was not in opposition to the Gothic revival. Although some chaff was indulged in about the Gothic revival, yet on the whole it was patronised, and Queen Anne was commended more on account of its Gothic elements than for the Classic features which were kept in the background. Those who now stood up for Free Classic might in the process of development at last attain to what was pure Greek.

The question was important, whether—it being conceded that the buildings proposed to be revived were chiefly remarkable or commended for the Gothic spirit which remained in them—it was worth while to found their studies upon bad Classic mixtures. It was a question as to the goodness or badness of the Classic element contained in these wonderful buildings, and with regard to the question of style, Mr. Ridge imagined that style was the particular mode of building in vogue within any limit of time or space, and included all works in which the same principles and same modes of workmanship were followed. For purposes of study it was limited by the amount of knowledge which had come down to us.

In speaking of these different styles, Mr. Ridge said that, so far as the knowledge of Greek architecture had come down to us, it was an architecture of temples. Very little was known of the architecture of their houses, and their temples, consisting mainly of colonnades, and their exquisite sculpture, were for us their style. It was, in fact, an Order.

In Roman two styles might be distinguished—the Temple style, adapted from the Greek together with the colonnade architecture, and also the architecture peculiar to large baths, buildings, and aqueducts, which they built in stone with arched construction. There were therefore two distinct styles of Roman building—the Temple, and what might be called the Bath style, in which the construction formed, as it were, the nucleus to which the architecture was applied in a decorative manner.

Passing over the Romanesque developments, Mr. Ridge spoke of the Gothic style, and said they would not fail to notice the similarity that characterised its various details; the same style characterised the door of a church as the door of a house, and that remark also applied to a church window and a domestic window. Speaking generally, the forms, details, and principles of construction were identical, and it was therefore with surprise he could scarcely express, that he heard a fortnight ago that Gothic architecture was an ecclesiastical style. Gothic was the style of Northern Europe in the Middle Ages from the end of the twelfth to the fifteenth century, and although it was quite true that Gothic architecture included the pointed arch, it was not confined to it; but the nature of the materials in Northern Europe were such as to render the pointed arch absolutely necessary. If they had arched construction at all it was essential, for the sake of proportion, that the pointed arch should be used. Lintel construction in stone was common enough, although the lintel was in the main characteristic of timber construction. Gothic architecture included cathedrals, churches, chapels, castles, chateaux, manor-houses, barns, dovecots and farm buildings, windmills, kitchens, hospitals, town gates, walls and ramparts, market crosses, halls of justice, town halls, commercial buildings, town houses built around courtyards, and last, but not least important, houses in streets with narrow frontages many storeys in height, and frequently with open shops on the ground floor. If cathedrals were rich, country churches were simplicity itself; the small buildings were picturesque; the cathedrals grand and

rich; the castles grand and plain; the country houses extended over space, the street house being piled storey on storey; if the composition was perpendicular the storeys, except sometimes in late work, were marked; if stone-arched the wood was framed square and braced; if the roof was broken about with chimneys and dormers they would find it with a large expanse so that dignity was not sacrificed to picturesque; if infinite in variety consistency was always apparent. Above all the work accorded with the material and the use of the building, and therefore Mr. Ridge thought that all those descriptions of Gothic, such as its being an arched, an ecclesiastical, or a picturesque style were incorrect and founded on a very narrow view of the style historically.

After the Gothic Period two very distinct principles were at work in the design of Gothic buildings—first, the useful tradition, and secondly, the architectural element. In English churches after the Reformation the design sought after was that the church should practically be an auditorium—resulting in the three-decker and galleried churches with which we were more or less familiar. These requirements were furnished in Classic, and abroad the old requirements were also Classic. When the useful tradition clashed with architecture the latter invariably had to give way. They could remember some of their finest Gothic churches fitted up just the same as they would have been by Sir Christopher Wren. In St. Paul's, Wren's alternative designs were both Classic; and what was true of church work was equally true of domestic work. They all knew that the Gothic Revival had been wonderfully successful in the matter of churches, and that it commanded the field in that department not even the most devoted disciples of Queen Anne could dispute. The fact was that the Gothic Revival happened to fall in with a certain religious revival, which, of itself, would have sufficed to alter the character of our churches—the congregation being restored to their proper position as worshippers, and the minister being reduced to something like the level of an ordinary human being. It was the recognition and adaptation of this principle that had made the fortune of Modern Ecclesiastical Gothic, and among other improvements churches were now built without galleries. St. George's, Bloomsbury, was now ungalleried.

Proceeding to domestic work, Mr. RIDGE pointed out that a similar traditional working-out of requirement had ruled. There had, of course, been an immense advance in the comfort of domestic arrangements since the great Mediæval transition, and they had yet much to learn in the way of planning. While the useful tradition was in the ascendant, and plainly influenced the style of architecture, we had a distinct school of buildings—that school which hitherto, perhaps, we had called Renaissance, or Elizabethan, or Jacobean, or Francis I., but which we were now invited to range under the titles of Queen Anne or Free Classic. When tamed down and reduced to architectural rules, he supposed we were to consider that this style becomes Classic, Roman, or Italian. There were two developments of buildings, after the introduction of the Classic element, to which he would allude: firstly there was the cottage style, and he hoped they were familiar with buildings of that class—partly timber and partly covered with tiles, having chimneys of considerable merit and roofs that were exceedingly picturesque in their outline. Those buildings very seldom caused vexation or disappointment; as a rule they were erected long after the Middle Ages, and there was not a single Gothic or Classic detail in them. They were very judicious and beautiful in their construction, and had been carried out by the same gentleman to whom they were indebted for the eccentricity in Leadenhall Street; and they could not but feel that the gentleman who cultivated that genuine, homely type of architecture was doing a wonderfully useful work. It was a matter for regret that one capable of producing such effects should have gone to other fields of study.

Another style was the early Queen Anne, namely, the red brick and sash window style, with a high roof; the result was a perfectly plain house, having a large number of windows in a row—the style being traditional and natural, if sleepy. For a long time he thought that was the style they were tempted to study under the title of Queen Anne, and he confessed that it caused him no anxiety whatever. It seemed a very wholesome thing that some Gothic men should be invited to study a style which at least had the merit of simplicity and truth. There was nothing sensational about it, and he thought the absence of sensationalism would be one of the greatest boons that could happen to ordinary designs at the present time. The Gothic revival, it must be acknowledged, was at first a very grotesque affair—as instanced at Strawberry Hill and other early efforts—but it was extremely important to understand the object of the Gothic revival; it was less a question of the revival of forms than of principles; it had ceased to be a mere question of archæology and of using the forms used in the Middle Ages, but was based upon true principles indicating the working of men's minds.

The question, therefore, mainly for consideration was how far those who had followed what they conceived were true principles should allow themselves to be influenced by the picturesque of the Free Classic styles, in which much of the Gothic element remained, accompanied by a large amount of Classic? Were the Classic elements in such buildings sufficiently good to cause them to adopt them in preference to the Gothic as the basis upon which to design? Before proceeding to answer this inquiry, there were two matters he would like to mention. In any style of architecture wherever they saw a feature they would wish to incorporate in their design it was open to them to translate it into the style in which they were working. He could not do better than instance Wren's towers and spires in London. Wren had to conform to the then prevailing tradition, but succeeded most successfully in translating the Gothic spire into the steeples of St. Mary-le-Bow and St. Bride's. Those steeples were doubtless Classic, so far as Classic was then understood, and the general effect was clever, so clever that he would be exceedingly sorry to see them exchanged by any Gothic spire, and believed they would lose immensely by such a change; for in looking at those steeples the same kind of incongruity was not betrayed as in the steeples of St. Michael's, Cornhill, and St. Mary's, Aldermar, where Wren was trying to do Gothic. He was thus successful in translating the Gothic towers and spires into the style in which he worked,

and of which he was a master; and many other instances might be given of the translation of particular features into the style in which a man built, and which was perfectly legitimate. The other point that occurred was the importation of any particular spirit into a design. The French, as they were aware, were trying to import a Greek spirit into their architecture—trying to do what was called Neo-grec—and he thought this was a very legitimate and proper ambition, and calculated to promote the welfare of architectural design in France.

Having pointed out how different styles might be made useful, and be incorporated in their work, Mr. Ridge desired at the same time to enter a protest against the notion that all styles were equal, and that it was an open question whether a man should use one style or another. Of course it was quite open to a man to choose any style, but he warned them against Eclecticism, and said it generally happened that those who wished to be masters of all styles ended by being masters of none. It was quite possible for Eclecticism to be carried too far, as at Kensington.

He would now address himself to the consideration whether the Classic elements of these Free styles were so far a good that they should be followed, or so far an evil that they should be shunned. He wished to exclude from his criticism such works as the clubs, &c., by the late Sir Charles Barry; and observed that there were many Classic buildings erected in the City of London which were far more Gothic in their spirit than the eccentric Gothic buildings which were to be found in different parts of the metropolis.

In designing a Classic front the plan would be to take a colonnade and apply it to the face of the building, and let the windows fall in as they could, the main object being to get in the Order and entablature, and to finish up with a modern balustrade, the wall almost ceasing to be. Contrasting this with the Gothic method of treating the wall, they would find the wall surface maintained as the element of the building. There would be a plinth for a foundation, strings to throw off the wet and mark the stones, and perhaps a cornice at the top for protection and architectural finish. But everything would be considered in reference to the wall itself and the useful part of it, and not in reference to a colonnade, which was invented by some gentleman of the old world to go round a temple. He maintained that the introduction of a Classic element into these buildings was a mistake, and when introduced uselessly and purposelessly had the effect of destroying what ought to be preserved, namely, the wall surface.

At this point he desired to say a few words on the principle of truth in connection with the Gothic Revival. They would not boast of their morality because they did not tell lies; and although it was very well to insist on truth in those days of architecture when everything was a sham, yet, as he understood truth, it was the use and proper adaptation of a thing to the purpose for which it should be used.

In comparing the Classical and Gothic treatment of wall openings, Mr. Ridge described the superiority of the latter, and stated that in stone and brick work the Gothic treatment had the effect of so binding the stones in the wall as to convey the feeling that they were part of the wall; but precisely the opposite effect was produced or endeavoured to be produced in Classic work—the bond being broken. He was not prepared to support the introduction of brick pilasters and other brick dressings which formed so striking a feature in School Board buildings. These pilasters had not even the merit of beauty in point of form when introduced in the Free Classic, for they departed from the rules of proportion. He had also a note about the pediments—the curly-wigged pediments he might call them—which looked very picturesque in some old buildings; but respecting which, it was a question whether they should be revived. He remembered somebody writing that these pediments were not structural, but the reply was that they could be constructed, and were therefore structural. He contended, however, that no roof should be allowed to take such an extraordinary line as was taken by these curved gables, and that they were therefore not structural.

In coming next to the question of the interiors, a numerous class interested in the present controversy were in the habit of saying "Gothic is very well for the outside, but Queen Anne is much better for the interior." A great deal had been said about the immense improvements in modern joinery, and that the arts of panelling and joinery were practically unknown in modern times. Yet this was a tremendous assertion, for he had certainly seen linen panels, and always understood that they were made in the Gothic period, and were to be found in Gothic churches. There was an extremely elaborate and beautiful description of the art of joinery, by M. Viollet-le-Duc, illustrated by examples which did exist, and were not the creation of his own brain. The development in joinery since the middle ages might be almost said to be confined to the process of gluing and blocking trends and risers. Therefore, he thought, they were quite entitled to include panelling and joinery generally as part of their Gothic stock in trade. Possibly old joinery was heavier, and the work less deceptively accurate, and with less veneering than were now in vogue; and whilst upon this topic Mr. Ridge expressed a conviction that any one who could discover a satisfactory substitute for lath and plaster would do a great thing for the art of architecture.

As to the cornice, it was the practice of Classic architects to take deep mouldings of entablature and put them round the room; but now all agreed in using plaster mouldings for the cornice. With regard to the doors, he was not aware of any substitute for the modern mode of lining up a doorway. The Gothic treatment he thought answered quite as well as the Classic. Referring to chimney openings, Mr. Ridge thought a great deal was to be said in favour of the Gothic over the Classic.

With regard to what might be called the great window question, and the statement that "double-hung sashes are the things to float Queen Anne," Mr. Ridge said that he was very fond of them, and thought they were very comfortable and useful. In a stone country, and when obliged to use mullions and transoms, these sashes might present a difficulty, but not otherwise.

Having thus taken the opportunity of plainly stating his views, Mr. Ridge in conclusion said:—I allow that Queen Anne presents some delight-

ful studies of composition and outline, but maintain that these are essentially Gothic in their character and origin. It may help us by suggestions as to the treatment of ordinary domestic fittings and detail (which are, however, by their nature just as much of one style as another, or are at least easily translatable), these virtues being entirely independent of any admixture of Classic design; hence the style should be studied with caution, and I think we may accept architecturally as well as historically the oft-repeated assertion that Queen Anne is dead.

Mr. Boyes proposed a vote of thanks to Mr. Ridge for his very able lecture, which seemed to be a very complete reply to a good deal that they had heard a fortnight since. (Question.) He hoped the gentleman who said "question" had got something more to say. It should be remembered that Mr. Stevenson admitted that the style he advocated was not intended to supersede Gothic architecture; and it obviously could not be satisfactorily applied in the construction of large public buildings. If an architect, were called upon to design such a building as the Law Courts, he did not think Queen Anne would be the style employed; and although it might develop into a style suitable for such a purpose, he believed it would be a long time about it. It seemed to be a question whether the Gothic architecture of the Middle Ages was suited to modern domestic buildings, and it was also a question whether Queen Anne, as at present practised, was adapted for domestic architecture. Mr. Blashill had, in fact, intimated that we wanted a new style adapted to the present day. The hints of Mr. Ridge as to the translation of style were very valuable. The Gothic revival had not, Mr. Boyes believed, succeeded in domestic architecture, because it was treated as a dead style, admitting of no freedom or development; therefore, if they introduced anything out of the way, they were looked upon as ignoramuses, all freedom being denied in the treatment of Gothic as in that of Classic. He believed that the great hope of the present revival consisted, not in its being a revival of the Queen Anne style, for Queen Anne was dead, but in its being a free style, and as such was not to be put down by pedantic scholasticism. He therefore welcomed it as being a style that stood on its own merits without being a reproduction of any particular style; but, at the same time, he appreciated the argument of Mr. Spiers that in the matter of education the architectural student should be educated in the dead styles in the same manner as the dead languages were supposed to be the best vehicle for ordinary education. It was absolutely indispensable that the architectural student should make himself as far as possible master of the dead languages of art. He believed that if they could properly get hold of Mr. Ridge's theory with regard to the translation of styles, a Free Gothic style would arise and completely absorb these Free Classic styles. He agreed with Mr. Pugin that there should be nothing about a building that was inconsistent in reference either to construction or ornamentation. In conclusion, Mr. Boyes looked forward to a Free Gothic style that would disarm criticism.

Mr. A. PAYNE had great pleasure in seconding the vote, and in doing so observed that the architecture of Queen Anne was a revival of a revival. Until recently nobody believed that there was such a thing as Queen Anne, as it always went by the name of debased Classic. Looking at the building in Leadenhall Street, with its scrubby windows, one would imagine that it was a copy of a country pothouse; it was simply a monstrosity. After all, he thought that this hankering after a new style had a right tendency, for in all matters of taste we must have variety. Every age must have a new style, and this he said notwithstanding the assertion of a great authority that the idea of our now having a new style was absolutely preposterous. It was a curious circumstance, but somehow or other a broad space was not adapted for Gothic architecture, and as a rule where Gothic prevailed the streets were narrow; Gothic depended mainly for its popularity on its picturesqueness. Mr. Payne thought they should adapt to their particular works the style best adapted for such works, and by truth and making the best of the materials at their disposal, they would be more successful in developing a new style.

Mr. E. J. TARVER referred to the difficulty in applying the Gothic style internally, and said there had been many more failures in Gothic interiors than Gothic exteriors. He thought the art of joinery had undergone much more improvement than other trades that had reference to the exterior of a building, such as the slate, tile and plaster trades.

Mr. J. J. STEVENSON asked that the case might not be judged by his advocacy—not, however, that there was much to be judged—for there was no great difference between himself and Mr. Ridge. There were two or three points to which he would refer. He understood Mr. Ridge to imply in his argument that these Free Classic styles really gave the Gothic character to old towns, and were in reality Gothic; therefore, it would be much better to give our buildings this character without debasing them with debased Classic mouldings—it was better in fact to maintain their true Gothic character. He (Mr. Stevenson), however, believed that these Free styles were not Gothic in principle, but Classic both in principle and character, and flowing out of the Classic Renaissance. The difference amounted to this:—A young lady once asked Sir Bulwer Lytton the difference between a Liberal Conservative and a Conservative Liberal, and the reply she received was, "Just the same difference as between a horse chestnut and a chestnut horse." He said that these Free styles were not Gothic, but Classic, with the addition of Gothic elements. There was another assertion he had made, and to which he still adhered, namely, that Gothic was essentially, in its origin and growth, and every moulding about it, an ecclesiastical style—a style that grew up in the construction of churches and great halls, and had since been applied, and not satisfactorily, to buildings divided into a great number of floors. He therefore defined Gothic as a style of Pointed vaulting, and from the Pointed vaulting every feature arose—that method of construction being wholly unsuited to domestic buildings. Pointed vaulting brought the Pointed window—a very interesting feature, and the history of which had been traced by Viollet-le-Duc in his "Dictionary of Architecture." He had always taken great interest in the development of Gothic architecture, and he believed that

every feature in its development had its origin in a desire to obtain fire-proof construction. Its development was wholly as a stone style, and it had never been properly developed in wood construction. No doubt there were linen panels, but he questioned whether they would be found much earlier than the Elizabethan age. Upon the whole he believed it was generally true of Gothic that it was a stone rather than a wooden method of construction. Thus it came to pass both in France and England that the longer the style lived the Pointed arch became superseded in private houses, and was treated merely as an ornamental feature. In large halls, where a Pointed window was suitable, the lower panels were square, and made a square opening, and he thought that Gothic when it lost the Pointed arch lost its characteristic feature, and ceased to be Gothic. (No, no.) A sort of subsiding process took place in two different ways both in France and England, but it would occupy a treatise to trace the whole rise and development and fall of Gothic architecture. He asked whether they had ever thought how it was that in France the windows remained Pointed to the end of the style, and filled up with Flamboyant tracery, while in England they became Perpendicular in shape, and afterwards square. Although he could only offer an opinion on the subject, he should say that Gothic was essentially a vaulted style of architecture. In France, as he had already mentioned, the windows remained Pointed quite to the end of the style, but in England they became square—the reason being that in England Gothic ceased to have that essential feature of vaulting, and gave it up to admit of wooden roofs; and as soon as Gothic gave up vaulting, it gave up the Pointed window. In England Gothic assumed the character of Perpendicular, and he maintained that the essential features of Gothic—namely, the Pointed arch and vaulting—had nothing to do with ordinary houses, and were not natural or true when so applied. He did not take the narrow view of truth condemned by Mr. Ridge; a man spoke truly when his work was the true outcome of himself, and he held that Gothic was not the natural outcome of the present day. Moreover, the traditions and customs of workmen were Classic, they worked in Classic and used Classic mouldings. They should endeavour to refine and elevate the tastes of workmen, and although endeavours had been made during the last thirty years to imbue the working-man with Gothic ideas the main result was the erection of Gothic public-houses. Mr. Stevenson said it was gratifying to hear that there was some hope of a new style; but the difficulty was for a style to be both new and true. At the same time it was but a natural presumption that men, having been so long in the world, should know what was most calculated to promote their comfort, as much with regard to the houses they lived in as the clothes they wore. Possibly all had been found out about the fitting up of houses that could be found out, and he could not conceive any further improvement being made in stairs, which, doubtless, had a considerable advantage over ladders. (A voice: "How about lifts?") He did not think that lifts would supersede stairs. He thought it was conceivable that mankind should get to the end of the subject, and if they wanted change, to have to fall back upon what had been done before; but if a new style ever came in, of one thing he was certain, that it would be developed unsensationally and not by being talked about.

Mr. R. PHENÉ SPIKES, in continuing the discussion, maintained that Gothic was an ecclesiastical, a domestic, and a secular style, and was suited to the wants of the age in which it originated. All styles were based upon religion up to the 16th century, and after that period domestic architecture and architecture adapted to great halls led the way. Neither the Pointed arch nor the Pointed vault was everything, for the principles of Gothic work were to be found in the earliest Romanesque buildings. He did not think Mr. Ridge was entitled to take every good building of Classic style and say, that is a very good Gothic building, although it may have Classic details. For instance, the designs of Mr. E. W. Godwin were based upon principles which characterised the purest Greek, Gothic features being copied in Classic. If plaster were done away with, as suggested by Mr. Ridge, one of the best non-inflammable materials would be abolished. He had great pleasure in congratulating Mr. Ridge on his extempore delivery (with the aid only of notes) of a very able lecture.

After a few remarks from Mr. RIDDETT,

Mr. HEBB spoke of the effect of literature in the development of the Queen Anne style, and expressed a conviction that the influence of Thackeray had a deal to do with the adoption of Queen Anne. When Thackeray built his house in Palace Gardens he probably struck a note which had since been followed by others; his works pointed to that particular style, and, therefore, it was not unfair to say that Thackeray was, to a great extent, responsible for the revival—whether for good or evil Mr. Hebb would not say—that had occurred. Probably the style would continue to flourish, for it had got a firm hold, and nothing could exceed the candour with which Mr. Stevenson had recanted some of the opinions he held in times past. It was important they should not be led away with the idea that Queen Anne or Free Classic was easy; if they confined themselves merely to the imitation of the superficial characteristics of the style they probably would not agree with it. He would, however, read an extract from a lecture delivered in the autumn of 1867 by the Rev. J. Lewis Petit, before the St. Alban's Architectural and Archaeological Society, as showing that Queen Anne was not merely an architect's style. Mr. Petit said:—"The domestic style of architecture which prevailed in Queen Anne's time, at least such specimens as do not exhibit the Classical Orders too prominently, has always appeared to me to harmonise exceedingly well with Gothic buildings, and it is a style which might be used in the present day without giving the idea that we are adopting the manners of an age different from our own. For it is a style which, I may say without any modification whatever, is calculated to meet all the requirements of the day, whether we want size or number of rooms, fine proportions, good ventilation and lighting, convenience of passages and staircases, or a stately and dignified aspect. All these may be obtained in the Queen Anne style, with as little waste of material or unnecessary expense, and with as much attention to durability as any style that can be named." These (Mr. Hebb considered) were strong sentiments as coming from a Gothic partisan, and

Queen Anne could not easily be put down when it was found how many had identified themselves with the movement.

Upon the motion of Mr. STANNUS, seconded by Mr. McLACHLAN, it was resolved that the discussion be adjourned until the last evening of the session.

The vote of thanks having been put from the chair, and carried with acclamation,

Mr. RIMON said he could not venture, at that period of the evening, to say much in reply. Mr. Spiers had stated that Mr. Godwin's designs were pure Greek, and he (Mr. Ridge) had nothing to say against that. Classic design, he contended, was based, to a great extent, upon the introduction of the Order. He allowed that architectural details were often copied in Gothic as well as in Classic, but he objected to the application of these details to purposes for which they were not designed. He did not want to do away with plaster, but only wished that an efficient substitute might be found for it. Mr. Stevenson had maintained his opinion that Gothic was an ecclesiastical style, but he still begged to differ from him. Although of religious origin, it had developed in all classes of building. In recommending Gothic as the foundation for a design he desired that the arches, the construction, and everything that was Gothic, should be studied. Mr. Boyes complained of the want of freedom in modern Gothic, but he (Mr. Ridge) thought it was quite free enough. He approved of the principles of the Gothic Revival, not caring so much for the forms except so far as they were the means to an end. As to the need for a new style, he imagined that it was new enough already. Was there not quite enough difference between our modern Gothic and the Gothic of the thirteenth or fourteenth century? As to new styles for modern building, he thought that every building now put up would be characteristic of the nineteenth century. Mr. Hebb had quoted from a lecture referring to the quiet, sleepy, red-brick buildings of Queen Anne, against which Mr. Ridge had nothing to say. He referred to work of a very different class.

It was announced that at the next meeting, on March 19, a Paper would be read by Mr. John Sparkes "On the Development of Stoneware and other Fictile Materials for Architectural Purposes," and it was believed that Mr. Sparkes would bring down a number of models and specimens for the purpose of illustrating his Paper.

ROMAN REMAINS AT SOUTH SHIELDS.

AT the monthly meeting of the Newcastle Society of Antiquaries, under the presidency of Mr. John Clayton, the Rev. Dr. Hoopell gave a description of some Roman remains which have recently been found at the Laws, South Shields. He said the ground, which belonged to the Ecclesiastical Commissioners, was being laid out for building sites, and in the course of making the roads some very interesting relics were come upon. In particular, there was an ornament in the shape of what Mr. Blair, who had taken a deep interest in the subject, described as a fir cone, sculptured, and fixed upon a pedestal. Along with it a gold coin was also unearthed. A fortnight ago a very perfect kind of dish was found by a person who had bought the site, and came across it in excavating for a cellar, the maker's name upon it being "Genmore." Mr. Carr-Ellison volunteered to send a man down to make excavations, if leave could be obtained. The result of some correspondence on the subject had been to stir up a considerable feeling of curiosity and interest in the town. The Mayor of the borough, who was also the agent to the Ecclesiastical Commissioners, had been waited upon, and had granted permission to excavate, upon condition that whatever was found should be lodged in South Shields. In one big hole they found a complete column, about seven feet in length, circular in shape, with mouldings at the top and bottom. When found it was only broken in one place, but the men had unfortunately broken it in another in getting it out. In the same hole they found several portions of another column, and these remains had been removed to a place of safety. It was believed, if funds could be obtained, and they went properly to work, they would find an outline of the station, and they could then determine the position of the gates, the approaches, and many other things of great interest.

Subsequently a deputation from the Newcastle Society visited South Shields, and the opinion of Mr. Clayton was that the ground should be further excavated, as he was almost certain further discoveries would be made. He thought that in one place there would be found the stone flooring of a room supported by pillars. There also appeared to be a large archway. The column and other fragments of stone have been placed for safety, temporarily, in the garden of the Marine School. In addition there has since been found a small vase about two inches high, a fragment of a supposed slate wheel, and other reliques.

THE SOCIETY OF ANTIQUARIES OF SCOTLAND.

AT the last meeting of the Society of Antiquaries of Scotland, the first Paper read was an account of some excavations on the sites of ancient Gallo-Roman hamlets in Brittany, by Mr. James Miln, F.S.A., Scot. The writer described the neighbourhood of one of these hamlets, that of Boceno, near Carnac, a neighbourhood singularly rich in remains both of the historic and pre-historic periods. He illustrated the pre-historic remains by exhibiting an extensive series of sketches of dolmens, alignments, crosses and other objects of archaeological interest. One of the results of the excavation was the discovery of a Gallo-Roman house at the Boceno. It seemed to have been burned three different times. It consisted of four rooms, from which were obtained a considerable number of relics of flint, bronze and iron, and of pottery and glass, which were exhibited. An account was also given of the excavation of another house at Mane Bras, which also yielded interesting results. Mr. Miln described the objects found in the dolmens, and exhibited specimens of the pottery and iron. From the similarity of the pottery of the dolmens to that of the pre-Roman period, he concluded that they were the sepulchres of the Gaulish tribes. The Paper was illustrated by upwards of a hundred beautiful drawings. Mr. Stuart, in the name of the Society, thanked Mr. Miln for his Paper.

ON SOME DIFFERENCES BETWEEN BRITISH AND AMERICAN ARCHITECTURAL PRACTICE.

(Concluded from page 142.)

THE next important point of difference between English and American practice has reference to the preparation of estimates, and is of the utmost consequence as affecting the credit of the profession. I think there can be but little doubt that the American public has little or no faith in architects' estimates. The report of Governor Dix to the Legislature of New York contained most severe strictures on the profession in this respect, and whether fully justified or not, his remarks were extensively echoed by the press, and I am not aware that any satisfactory answer or explanation was ever given on the part of the profession. And if we look into the matter and compare notes, we find that this is unquestionably a neglected matter by American architects. The manner in which estimates or bids for works are obtained in chief cities of the United States is still the same as it was in England fifty years ago, and may lawfully be characterised as unsystematic, wasteful, and inaccurate. It does not seem to be usual to have any calculations made on the part of the owner or architect as to the amount of work requisite to carry out a design, or the prices that work is likely to cost, until actual bids or tenders are required. Architects' estimates, therefore, are very seldom made at all, and what pass for them would be more properly described as architects' guesses, not being the result of calculation. When tenders are asked for, accordingly, neither the architect or owner has commonly any but a very hazy idea as to their probable amount, and the extent to which that may be affected by any particular item in the design or specification. The drawings and specification are placed before a number of contractors, who commonly take up a deal of the time of the architect and his assistants, as well as a deal of his office room, while engaged in overhauling them, and making out their calculations, and unless the architect has his drawings lithographed, so as to be able to supply each contractor with a copy, a vast deal of delay and inconvenience occurs in lending out the drawings to one after the other. When the bids or tenders come in, they only appear ordinarily as lump sums, for the contractors are very chary of allowing their detailed calculations to be seen, and with good reason, for any that have yet come under my notice exhibit the most surprising discrepancies and absurdities, and it is therefore easy to understand why they should be so sedulously kept out of view.

Before reviewing other defects in this system I may first observe that it is evident a large waste of labour is involved in the fact that each contractor has to calculate the quantities of work for himself, a business which might just as well be done by one for all, and a very complex matter if properly done, but which of course may be slurred over or jumped at if men prefer to do so. The fact that contractors are found willing to incur all this unnecessary trouble is no defence for the waste it involves. At present it is the only means they have of obtaining contracts, and must be submitted to, but of course it must be paid for in some way and come out of somebody's pocket. Architects may fancy it is no affair of theirs, because the contractors are willing to put up with it, but this principle, if generally acted on throughout the world, would forbid all improvements by which waste is stayed or economy effected. A steamship, railroad, or telegraph company, for instance, which would neglect any means by which waste could be stayed, merely because the public or shareholders, not having any other resource, had to put up with the result whether on the rates or dividends, would be guilty of gross unfaithfulness either to the shareholders or public, possibly to both. If the architects are to be really what they are nominally, the "master-builders," it is their duty in the interest of the building public to make such arrangements as will prevent waste of all kinds, and thereby popularise as much as possible the business in which they are engaged.

Apart from this, a set of tenders only in lump sums is unsatisfactory: first, because it gives no security against collusion; and secondly, because it gives no aid towards revision and adjustment, should it be found, as so often happens, that the amounts exceed the prescribed limits. It does not by any means follow that because a set of tenders differing not very widely are received for a work, that its proper value has been reached. The often hasty and irregular manner in which the quantities are calculated, as above described, may reasonably be expected to issue in mistakes, through which a man whose prices may be lowest, and facilities for executing work are the most advantageous, may be at the top of the list, and *vice versa*. Caucuses and combinations may be, and, if I am rightly informed, often are found amongst contractors by which they agree on whose bid is to be the lowest, the rest putting in at a small sum over it. Again, there may be items in the work which cost more than they are really worth to the design, and which, if the architect or owner knew the cost of separately, they would be glad to dispense with or modify. But supposing one of the tenders to be deemed satisfactory and be accepted: what means exist for the architect to adjust the amounts of the instalments to be paid on account? A mere lump sum for the whole gives him no guide in determining these. The same applies to the valuation and adjustment of such deviations, whether by way of addition or reduction, as may be ordered during the execution of the work. It is often provided that the amounts to be allowed for these are to be determined by the architect; but how? Without the possession of some better guide than the lump amount of the contract, all these matters must be mere guess work; and do we find in practice that either the public or the contractors are quite satisfied to abide by the guesses of the architect on these subjects? So far as my observation has gone, it appears to me that American architects generally do not command the confidence of either in this important part of their duty, and that consequently they are frequently displaced from the position they ought to occupy as sole umpires or arbiters between employers and contractors, and lose thereby both the emoluments and consideration which would attach to such a position.

The English system, in contrast with this, is as follows: During the preparation of or on the completion of the drawings and specification, the

architect employs a building surveyor (one of a large, useful, and respectable profession), to "take out the quantities," as it is called, or in other words, to calculate with accuracy the amount of work of every kind required for the building. Should the architect be under any particular necessity for keeping within prescribed limits of expense, the surveyor often prices these himself, and advises the architect of the cost of any items that it may be desirable to modify or reduce, in preparing the specification. Ordinarily, however, this is not done till after the tenders are received. On the completion of the bills of quantities, they are lithographed, and a copy furnished to each party from whom a tender is to be received, whether they be invited by public or private advertisement. This, of course, relieves the contractors of nine-tenths of the trouble they have here, as, on receipt of the bills of quantities, they have only to append their prices and make up the amounts. As a consequence contractors can tender for ten buildings at less trouble to themselves than they can for one here, and the tenders are delivered with a promptitude and certainty that could not otherwise be attained. So fully is this system appreciated by the contractors as well as architects that it would be quite useless to ask for tenders in any of the great cities without quantities being supplied. Contractors would very properly tell architects, if called upon to come and estimate from his plans, that they had better use for their time, and that of their clerks, than to calculate quantities for him or his clients merely on speculation. It is not by any means, as has been suggested to me here, that British contractors are not so intelligent as those here, and do not know how to calculate quantities. Builders or building contractors there are as shrewd and intelligent as are to be found anywhere, but just because of this they are unwilling, each one, to waste his time doing what one could do for all; and, if a surveyor were not appointed by the architect, they would either refuse to tender, or meet and elect one to do the business for them. Their experience has shown them what might be expected; namely, that a skilled surveyor who makes a specialty of the business is more likely to analyse the drawings correctly than any one else, and that bills of quantities prepared in this way are more full and correct than any they could prepare for themselves, even if they could spare the time necessary to be given to it. Just as a man who is his own lawyer has a fool for his client, they would consider a man who insisted on taking out his own quantities was a fool for his pains. I have no doubt but that respectable American contractors generally would think the same if but they were given the alternative, and up to the present my experience has fully sustained that view.

When the tenders are received, should the amounts be excessive, the maker of the lowest is ordinarily invited to confer with the architect, and produce, for the information of the latter only, his detailed estimate, based on the quantities, which shows, of course, the cost of each item, as well as of the whole work. It is reasonably assumed that both the architect and contractor should be interested in having the work go on to a successful issue, instead of being abandoned as might happen on account of its extravagance, and accordingly there is neither jealousy nor mystery between the architect and contractor, as seems to prevail here. Usually the possession of the detailed estimate enables the cost to be adjusted to meet the wishes of the owner; the alterations necessary in the specification are made, and the work proceeds. It is the usual condition in the contract that the contractor is to deposit with the architect a copy of the detailed estimate, and that it is to be the basis for ascertaining the amounts due as instalments during the progress of the work, also for valuing extras or omissions. It is not usually shown to the clients, but the possession of it is of great service to the architect as giving him an insight into the manner in which the funds at his disposal are being expended, and placing him in a position to do strict justice between client and contractor, which he would not otherwise occupy. The detailed estimate is of equal service to the contractor, as it enables him to order his materials and make sub-contracts with great facility, and it is just as much a protection to every honest interest of his as of the client.

The cost of taking out the quantities (or in other words the surveyor's fee) is ordinarily defrayed by a commission which varies in England from one to two and one-half per cent., and which in inviting the tenders is arranged to be paid by the contractor who gets the work, who of course duly provides for it at the foot of his estimate. Of course it really comes upon the owner, as is proper, for who else should pay the whole expense of a building operation? But all experience has shown that it is no extra expense, but, like an architect's commission or an insurance premium, is money laid out to advantage. No building owner of any intelligence would be found to object to it. Should the work be abandoned it has been held by the courts that it becomes payable directly by the owner. In no case is it chargeable to the architect, whose commission of five per cent. is even more distinct from this item than it is from the salary of the clerk of works.

Although retained by the architect for the purposes above mentioned, it is not usual in England to make the contract refer to the quantities, but to the drawings and specification. It follows, therefore, that should there be any error by which the contractor suffers loss, the surveyor is personally liable to him. This element, about which sometimes a great noise is made in the English journals, practically amounts to very little. Experience has shown that such mistakes are rare, and that in general surveyors do the business more accurately than could the contractors themselves, and no really qualified expert, whether he be surveyor, architect, engineer, lawyer, or physician, should be afraid to assume the fair measure of responsibility which the practice of his profession involves.

In Scotland, however, a difference exists which is characteristic of that canny nation, and is really, though not apparently, more economical. The contracts are usually taken there with special reference to the quantities, the contractor agreeing to supply the amounts of work therein stated, but with this proviso—that, should less or more be required for the execution of the building as shown in the drawings, the difference is to be credited or charged, as the case may require. This to some extent lessens the surveyor's responsibility, but often involves a re-measurement of the work; but it secures that the client only pays exactly for the amount of work he

gets, and the builder is sure of being paid for all the work he has done. It is liable, however, to the objection that the contract amount is not so definite and fixed as under the English system, and, however it may find favour in Scotland, has as yet not been adopted south of the Tweed. Of course the main principles involved are identical, one being that the architect should have a controlling power in regard to the estimates and cost as well as every other particular relating to a building, and that these should be calculated in a regular and systematic manner.

I think a fair consideration of this system, whether as practised in England or Scotland, will show that it is just as well adapted to the practice of this country as of the United Kingdom, and that the position and influence of the architectural profession would be largely improved by its adoption. I am confident that the want of such a system has a good deal to do with the public dissatisfaction with the profession alluded to above. It clearly rests with the architects to take the first step in its introduction, unless indeed they choose to resign their proper position as the masters of the art of building. My experience has shown that the American public and building contractors are by no means slow to discern the advantage of any improved system of business, and I have found both ready to admit and recognise the utility of this. Some contractors, I have heard, object, but on a principle which will scarcely bear examination. They say on that system any one can tender and the competition will be too sharp. This is practically an admission of the efficiency of the system, and can hardly be entertained by architects, who, being employed by the owners, should consult their interests first. But more than one contractor who has objected to the system has acknowledged that he did so because it would be a safeguard to the owner. I have found, however, that there are plenty of honest and responsible contractors ready to admit its great utility, and to avail themselves of it also whenever it has been fairly offered to them. From the great cost of building operations here in comparison with the United Kingdom, a much less rate per cent. would pay for the service here than what prevails there—say one half to one per cent.—and would, in all probability, save ten times its amount, besides the other advantages referred to as likely to result from its adoption.

The supposed unwillingness of contractors generally to conform to the system has been put forward by some architects to me as an objection to it. This unwillingness, as above-mentioned, I have not found to exist, unless in a few cases, and with a class of men least deserving of the attention of architects. Even if it did exist, are the contractors to be looked on as the proper persons to decide such a question, or does it not rather belong to the province of the architects?

I believe there are plenty of contractors who would do without architects altogether if they could, and as a parallel to their willingness to make their own calculations, we find this class ready on all occasions to prepare plans also, as they profess, free of charge. If the architects be disposed to abdicate their functions in favour of such contractors in deciding one question, they might just as well do the same with reference to the other, and become mere draughtsmen, under the direction of the contractors, at once. If the architects are afraid to get proper calculations made in the interest of and for the protection of their clients, merely because certain contractors do not like it, they might as well give up preparing accurate plans and specifications and the whole business of superintendence because the same class of contractors would much prefer doing without these things also.

Above all, the interests of the clients or building public imperatively demand that such an important branch of architectural business as the preparation of detailed estimates should not be neglected by the profession or handed over to those whose interests are adverse, and who, not being specially paid for them, can hardly be blamed if they keep their calculations for themselves, and try to recompense themselves in some other way.

The Scriptural question "Which of you intending to build a tower sitteth not down first and counteth the cost thereof?" must be answered negatively if we apply it to American architectural practice as it is; and if the result of beginning to build without being able to finish does not often take place, the almost equally unsatisfactory result of having to pay an enormous sum beyond what was originally contemplated happens too often, and, as in the case of the Governor's report already alluded to, brings no small discredit on the profession.

I trust that, in instituting the foregoing comparison between British and American architectural practice, I have not overstepped the limits of fair criticism, my object being to place the experience of the profession in the old country at the service of those who practise the same in the new, and with a sincere desire and a sanguine hope that, amidst all the progress making in other arts, the noble and important one of architecture may not remain behind, and that its professors may reap the benefit in being fully accorded the emoluments and consideration to which the practice of their art should so justly entitle them.

MACLISE'S FRESCOS IN THE HOUSES OF PARLIAMENT.

THE following are copies of the reports of the committee, consisting of Viscount Hardinge, Sir William Boxall, R.A., Mr. E. M. Ward, R.A., Mr. G. Richmond, R.A., and Mr. G. F. Watts, R.A., appointed by the First Commissioner of Her Majesty's Works, &c., to inquire into the condition of the frescos by the late D. Maclise, R.A., in the Royal Gallery at the Houses of Parliament:—

House of Lords, December 18, 1874.—My lord,—I have the honour to report that the committee appointed by your lordship to inquire into the deterioration of the Maclise paintings met this morning, and proceeded to examine the paintings themselves.

During this investigation information was afforded to them by Mr. Ward, a member of the committee, to the effect that the Silica glazing had been copiously applied to one-half of the painting, whilst in the case of the remaining half it had been much more sparingly used, Mr. Ward

having been an eye-witness of the operation. The result was so far apparent that, whilst on the right half of the painting the efflorescence was almost general, that on the left half was very partial, and scarcely to be distinguished by the naked eye.

Inferences might, in the opinion of the committee, be fairly drawn from this fact, that the deterioration may be due to external influences. It is further to be remarked that a small portion of the efflorescence, removed by means of a silk handkerchief three months ago by Sir William Boxall, is no longer visible, whilst on the present occasion Mr. Richmond was successful in removing the bloom from a few inches of the painting by the same simple process.

The committee are inclined to infer from the above results that much may be done in this way to remove the general appearance of deterioration which the painting presents, and they would recommend that, previous to any further experiments being tried, the injured parts be operated upon by the above simple process, a certain time being allowed for testing the result at this period of the year, when damp and other changes of atmosphere are especially prevalent.

They would recommend that this operation should be commenced at once. Should the result be unsatisfactory, it may then be a question whether any, and what, further experiments should be tried; and in such a case it might be desirable to have chemical evidence on the subject. The committee have to request your lordship to take the following resolutions into your consideration, which they have unanimously agreed to:—

It was moved by Sir William Boxall, R.A., and seconded by Mr. Richmond, R.A.:—“(1.) That it is desirable that the committee be authorised to remove the efflorescence on the Waterloo painting by the simple process of using a cambric or silk pocket-handkerchief, a certain period of time being allowed to elapse before any further experiment be tried. (2.) That Sir W. Boxall and Mr. Ward, being unable to undertake such a duty, Mr. Richmond's offer to superintend the process be accepted, with the best thanks of the committee. 3. That Mr. Richmond, in such a contingency, be permitted to select a competent manipulator, who would operate under his immediate supervision.”

I have, &c.,
(Signed)

HARDINGE, Chairman.

The Right Hon. Lord Henry Lennox, M.P.,
First Commissioner of Works.

Royal Gallery, House of Lords, February 3, 1875.—My lord,—In continuation of my former letter, dated December 18, 1874, I have to report on the part of the committee that Mr. Richmond having received your lordship's instructions and permission to operate upon the *Wellington* and *Nelson* wall paintings in accordance with their recommendations, commenced his labours on January 11, and completed them on the 16th of the same month.

The committee have carefully inspected the paintings this day. With regard to the *Wellington*, considering that for the last 15 years it has gradually become more dull and filmy on the surface, the result of the process is most satisfactory. The *Nelson* having, with the exception of the hat in the foreground, not suffered to the same extent, does not now exhibit any signs of deterioration; whilst the *Wellington*, which presented an almost ruined appearance, may be said to have been so far successfully restored that it leaves little or nothing to be desired.

We have thought it right to append to this report Mr. Richmond's own statement of the process employed, which he has so skilfully and successfully carried out. It is satisfactory to note that, should the efflorescence again come to the surface, there is every reason to hope that such an injury would be remediable by the simple process which has been devised. The firmness of the ground, and of the picture itself, has enabled Mr. Richmond to deal with it more effectively than might have been expected, such simple treatment being preferable to, and less hazardous than, the application of chemicals.

There can be no doubt of the desirability of carefully watching the condition of these paintings, for it would be necessary, in the event of the bloom recurring, to remove it at once. In those parts of the painting where it has been allowed to remain for a long period the injury is greatest, and less capable of being removed. It might be a question whether, under other circumstances, such an external coating might be applied as has been sanctioned in the case of Mr. Dyce's frescos; but in the present condition of these water-glass paintings, with the contingency of a return of the efflorescence, no such process could with safety be recommended.

We have again to express our best thanks and acknowledgments to Mr. Richmond for the labour and care he has bestowed on what was more or less a hazardous and difficult task, as well as for the sacrifice of his valuable time, in which we feel sure your Lordships will cordially concur.

We have further to report that Mr. Richmond has intimated to us his readiness to undertake the task of watching and reporting upon the condition of these two paintings from time to time, should your lordship approve of such a duty being committed to him. On this we need only remark, that this offer, prompted solely by a love for art, and a regard for the memory of the late Mr. Maclise, is well worthy of your lordship's favourable consideration.

We would suggest that, for some time at least, the scaffolding should not be removed, in order that the public and those interested specially in art may have an opportunity of inspecting the paintings in their present state.

In conclusion, we have to thank your lordship for the readiness with which you have acceded to our recommendations, and to express again our hope that the results will meet with your approval.

I have, &c.
(Signed) HARDINGE.

The Right Hon. Lord Henry Lennox, M.P.,
First Commissioner of Her Majesty's Works, &c.

20 York Street, Portman Square, January 22, 1875.

My Lord,—In obedience to your lordship's wish that I would draw up a short statement of what has been done to the two great wall pictures in the Royal Gallery, by Maclise, of the *Meeting of Wellington and Blucher* and the *Death of Nelson*, I proceed to state that I found both pictures affected in the same way, though the *Nelson* but slightly, while the *Wellington* seemed ruined.

This picture was so obscured that, in parts, it was impossible to trace even the subject. The head of a grenadier officer to the right of Wellington I could not make out a feature of, even when looking at it on a level with it, and at the best point for observation; this certainly was one of the worst bits of all. But the whole work was more or less covered with an efflorescence which gave it an utterly ruined look.

This efflorescence showed especially in the darks, and seemed to have affinity to certain colours—black, dark blue, and the ochres.

This mould, for such it looked like, was largely mixed with London dirt, and was of a rust colour; though on the *Nelson* picture, where it was but just appearing, it was quite white. It was extremely tenacious, and not to be removed by merely wiping or rubbing, which spread, but did not remove it. Warm water with spirits of wine was more effectual for this purpose; but by far the best mode I found to be beating it with slings of linen and wash-leather, with pads of cotton wool confined in them, and this with all the force that a man could give to a side stroke, the oblique stroke throwing off, at each blow, whatever it had displaced; and in this way the whole picture was gone over.

The extraordinary firmness of the ground and of the picture itself warranted that otherwise might have been a rude and dangerous treatment.

I speak now of the *Wellington* only, for the *Nelson* is painted upon a different ground of rougher texture, and is not so completely incorporated with it, and had to be dealt with more tenderly, though in the same way.

Both pictures are now quite clean, and must be kept so, and, should the efflorescence appear again, which I think not unlikely (but in a very much weakened form), it must not be allowed to remain, for where it was found in greatest excess, there the picture has slightly suffered; and I cannot but think that, if it had been allowed to remain much longer, the work would have been irredeemably injured. As they now stand, the masses of light and shade are well marked, the relation of the parts satisfactory, and, as painters term it, the keeping is good.

Higher brilliancy of tint might certainly be given to the whole work by the application of a wax varnish, such as the Neapolitans use for protecting the Pompeian pictures from the air, and also giving lustre to the colours, and which leaves no shine; but it would be full of risk to apply this until we are quite sure that the efflorescence has worn itself out.

As time only can prove this, I hope the committee will be content, for the present at least, with what has been done; and, if the Chief Commissioner will empower me to watch these two works during the year, I will do so with loving care, and report to his lordship if I see mischief arising.

When first called to examine these works about two years ago, I formed the impression that the malady would yield to mechanical treatment, and the result has not disappointed me.

In conclusion, I venture to remark that the *Meeting of Wellington and Blucher* seems to me the finest work Maclise ever executed, and I predict for that and the *"Nelson"* centuries of life.—I have, &c.,

The Viscount Hardinge.

(Signed) GEO. RICHMOND.

THE SANITARY CONDITION OF OXFORD UNIVERSITY.

DR. GILBERT W. CHILD, M.A., the Medical Officer of Health for Oxfordshire, has contributed a Paper to the *Sanitary Record* on the condition of Oxford. In treating of the position of the University and college authorities in regard to the sanitary conditions of the college buildings and the lodging-houses licensed by the University, he says, "With regard to neither of these can it be said that they are everything that can be desired. Some few of the college buildings, it must be admitted, stand upon unwholesome, low-lying marshy sites; but with regard to the great majority of them there is no great fault to be found on this score. On the other hand, in almost every college with which I am acquainted there are to be found some bedrooms, and too often many, which are small, ill-ventilated, and insufficiently lighted, that is to say, which, as far as the construction of the rooms themselves is concerned, have all the evils of back cottages; but even where this is the case it must be borne in mind that their sanitary condition is far less bad than that of similar rooms in any ordinary house, inasmuch as it is a very rare case for any drain to exist within the block of buildings in which college rooms are placed. In most cases, not only are the water-closets completely removed from the rooms, but the whole slope and refuse are carried away from them in buckets, so that any escape of sewer-gas into these ill-ventilated rooms is an impossibility. I do not say that this is always the case, but it is so very generally. Still such rooms cannot be wholesome even for a healthy man, and in cases of illness there can be no doubt that they tend greatly to diminish the chances of a favourable result.

With regard to the houses in the city in which undergraduates are permitted to lodge, it is to be remarked that, although the college authorities always maintained a certain power of selection, and on very rare occasions used it, it is only within the last few years that a regular system of licensing by the University has been introduced. The supervision previous to licensing had, as at first introduced, regard to moral and economical considerations alone, but it has of late years been extended, in some degree, to sanitary conditions also. But it is, I think, impossible to doubt that more strictness ought to be exercised on these latter points. In not a few cases lodgings are licensed in houses which can hardly be wholesome. This applies more particularly to those in old houses, many of which will always remain popular as long as they are licensed, on account of their nearness to college buildings and university lecture-rooms. Some of them are in old, ill-built, ill-ventilated houses, and have bed-rooms almost as

bad as those in colleges already referred to, but pre-eminently without the safeguards peculiar to the latter. Some have been found with drainage or water-supply not altogether unexceptionable, some on objectionable sites, and some also where so large a portion of the house is let in lodgings as to occasion dangerous overcrowding on the part of the lessor's family. Many of these cases have been properly met by the University authorities within the last three years or so; but the evils still exist, and will, in my judgment, continue to do so until the University takes more active interest in the matter than it has hitherto done. The demand for lodgings has of late increased very greatly as the numbers of the University have increased, and as the strictness of the old regulations as to residence within college walls have been relaxed; and it appears to me clear that the University authorities both can and ought to make it their business to see that their demand should be met by a sufficient supply of suitable and wholesome lodgings for their students."

THE BODLEIAN LIBRARY.

IN a Convocation held last week in Oxford the decree authorising the Curators of the Bodleian Library "to procure plans and estimates for enclosing and fitting-up the Proscholium as a fire-proof receptacle for the MSS. and other valuables belonging to the Library," was submitted to the House. The plan had already been recommended, and some of the objections to it answered in a Paper circulated by the librarian, the Rev. H. O. Coxe.

The Dean of Christ Church explained the purposes of the Bodleian Curators in submitting this plan to the House. He said he was saved trouble to a great extent by a succinct and lucid statement that had been printed by the librarian. On the whole he desired to adopt that statement, though there were one or two points to which he demurred, particularly as to the question of opening windows. He thought they would be found necessary. He understood that an objection had been taken to the plan on the ground that it would necessarily prejudice the question of moving the Library to another site. He thought that this was not so, partly because those Curators who were known to be for moving the Library had voted for this plan, partly because the sum required for the material adaptation of the Proscholium was not large. If it were asked why the Curators had become only now alive to the expediency of securing the MSS. and other irreplaceable valuables of the Bodleian from the danger of fire, he could only say that a blot was not a blot till it was hit. Some years ago attention had been called to the unsatisfactory state of the hot-water pipes, and the defects pointed out had been promptly remedied. Last year Captain Douglas Galton, who had most kindly written an elaborate report on the state of the Library, and on the alterations required, had pointed out the possible dangers from fire breaking out in neighbouring buildings. It was to secure the MSS., &c., from this danger that the present plan was proposed. Various other suggestions had been made, had all been carefully examined, and after examination had been put aside. The conclusion of the Curators was that if immediate action was to be taken, this was the only plan they could recommend. If the House also wished for immediate action, they would vote for the decree; if not they would vote against it, and relieve the Curators from responsibility.

No other member of Convocation spoke, and on a division being called for, the decree was carried by a majority of 61 to 19.

METROPOLITAN COMMONS.

THE annual report of the Inclosure Commissioners has been issued. Since the date of their last report they have received memorials for schemes with respect to Tooting Graveney Common, Surrey; Barnes Common, Surrey; and Bostall Heath, Kent. Of these, the first-named has been withdrawn, it being the intention of the memorialists to endeavour to effect their object by other means than the Metropolitan Commons Act, under which the special powers sought for could not be acquired. The memorial in relation to Plumstead Common and Bostall Heath has been withdrawn, and a new memorial in relation to Bostall Heath alone has been presented. There are now before the commissioners memorials for schemes in the following cases, viz.:—Mousehold Heath, Norfolk (under City of Norwich Act, 1867); Waltham Holy Cross Common, Essex; Clapham Common, Surrey; Ealing Commons, Middlesex; Barnes Common, Surrey; Bostall Heath, Kent. No further proceedings under the Act have been taken during the year with respect to Mousehold Heath, and the differences among those claiming to be interested continue unsettled. In reply to a recent inquiry the commissioners were informed that hopes are entertained that the matter may yet be put forward. The proceedings respecting Waltham Holy Cross Common remain suspended, at the desire of the promoters, until the inquiry as to Epping Forest is completed. Certain difficulties which stood in the way of making progress with a scheme for Clapham Common having been removed, a draft scheme will be published shortly. As regards Ealing Commons the Commissioners have instituted further inquiries in relation to the subject matter of the memorial, and are now satisfied that the commons fall within the operation of the Act. They hope shortly to be in a position to prepare and publish a draft scheme. In the cases of Barnes Common and Bostall Heath, draft schemes have been prepared and published. As soon as the time prescribed by the Act for objections and suggestions being made has expired, further proceedings will be taken. Since the passing of the Metropolitan Commons Act there have been five schemes certified and confirmed by Parliament relating respectively to:—Hayes Common, Kent, about 200 acres; Blackheath, Kent, about 267 acres; Shepherd's Bush Common, Middlesex, about 8 acres; Hackney Common, Middlesex, about 166 acres; and Tooting Beck Common, Surrey, about 144 acres.

The Gallery of Paintings belonging to Mr. Sandford, formerly American Minister at Brussels, have just been sold. The total amount realised was 155,181 francs.

THE NEW CLUB BUILDINGS, HANOVER SQUARE.

THE well-known Hanover Square Rooms are now undergoing considerable alterations, and will in future be known by the name of the Hanover Square Club, or "Cercle des Nations." The works in progress may be said to embrace the entire reconstruction of the building. The building is now only three storeys and 40 feet high, whereas the new club will contain four storeys, in addition to the ground-floor, and be carried to a height of 75 feet. The Hanover Street frontage will be 135 feet in length. The ground-floor portion is in rusticated Portland cement. The entrance is flanked with double columns on each side, in Portland stone, and with the view of preserving some of the external features and traditions of the former building, it will be surmounted by the Royal Arms, which used to be over the porch. The first-floor contains ten windows, with pediment heads, between which are fluted pilasters carried to the top of the second-floor windows, and above these a bold projecting frieze and cornice. The second-floor windows have square heads, whilst in the third storey they are pediment-headed, uniform with the first-floor, pilasters being carried up to the fourth storey, under the cornice. The whole is surmounted by a balustrade 5 feet in height, with ornamental shields. The Hanover Square frontage is uniform in design, pilasters being carried up at each angle, and at the foot of the first-floor there is a projecting balcony.

The principal entrance in Hanover Street leads into a vestibule and hall, 18 feet in width. On the left is the library and writing-room, 37 feet by 18 feet, and on the opposite side is the secretary's office. A corridor 5 feet in width runs along the centre, and on one side of the corridor are three private dining-rooms, each 18 feet by 15 feet; on the other side are the housekeeper's store-room, the serving-room for the private dining-rooms, lavatories, &c. The first-floor contains the grand dining-hall, 70 feet in length, 36 feet in width, and 31 feet in height, forming a portion of what was the great concert-room in the old building. The arrangement of this has been the most difficult part of the work. The concert-hall was 116 feet in length, and in designing the dining-room the architect was desired to preserve the ceiling containing the paintings. This has been effected by inserting truss and cross connecting girders before removing what was the old king-post roof, and these support the old tie-beams which remain, so far as concerns the ceiling over the dining-room, the paintings being preserved intact. The rest of the ceiling and paintings over the concert-room have necessarily been destroyed. Adjacent to the dining-hall is a private dining-room, 20 feet by 14 feet, and a corridor and staircase leads into the smoking-room, 70 feet by 18 feet, on the first-floor, from which access is had to the balcony overlooking Hanover Square. The first-floor also contains the wine-bar, smoking-room, attendants'-room, serving-room, still-room, and larder. Immediately above, and connected by lifts, is the kitchen and culinary department, the roof over which is an open timber one, securing perfect ventilation and freedom from all smells from the kitchen. The second-floor at the Hanover Square portion of the building contains the billiard-room, 60 feet long, and a card-room. The whole of the third and fourth floors will consist of bed-rooms and bath-rooms. That portion of the reconstructed building embracing the dining-rooms, dining-hall, smoking-rooms, and billiard-rooms, is intended to be opened in about three months, and the entire structure is expected to be completed and ready for occupation in six months.

Mr. R. E. Tyler, of Norfolk Street, Strand, is the architect, and Messrs. Melachian & Son, of St. James's Street, Westminster, the contractors. The estimated expense of the new buildings and alterations is 12,000l.

THE ARTISANS' DWELLINGS BILL.

ON Wednesday there was a meeting of the members of the Association of Municipal Corporations at the Westminster Hotel, when the Artisans' Dwellings Bill was brought under consideration.

Sir JOSEPH HERRON, the Town Clerk of Manchester, said he was inclined to think that the mode of assessing the value of land under the Bill would be satisfactory, subject, however, to a few trifling alterations as far as the local authorities were concerned.

The Town Clerk of Leeds thought the Bill interfered with the proper discharge of the duties of the local authorities by imposing all kinds of detail upon the Local Government Board, which would be better if left to the local authorities. He asked whether they would allow a Bill like that to pass which took out of their hands duties which they were able and willing to perform in making necessary improvements.

Mr. J. A. PIERCE thought no town stood more in need of a measure like the present one than Liverpool. A large part of the town was occupied by property wholly unfit for human habitation. The Corporation had in some places remedied the evil, but under this Bill they had no power to improve the property. For under it they were compelled to put nothing but cottages on ground where they had swept these vile dwellings away. If land so cleared were found better adapted to other purposes than building cottages, it should be so used. There had been a large amount of land taken by railways, &c., where people had been largely displaced, but there was no Act of Parliament compelling the companies to make provision for those so dispossessed.

Mr. BAYNER, Town Clerk of Liverpool, said a committee had been appointed to consider the Bill, and their opinion was that it was impossible to carry out clause 5. If anything were done with over-crowded districts of Liverpool, it must be done by displacing some of the population. It was impossible to provide for the same number of people on the same spot. Clause 7 was equally objectionable, which required that the land should be appropriated in part for the purposes of labourers' dwellings. They considered that that should not be allowed. It was foolish and injudicious when the land could be sold for manufacturing purposes for large sums. With regard to settling the value of land, he believed that a permanent official arbitrator would practically get rid of any difficulty.

Sir JOSEPH HERRON believed public opinion was tending gradually to put an end to litigation and the preposterous costs incurred in ascertaining the value of property. He believed the Bill as it affects Manchester would be highly valuable. A permanent arbitrator would be able to sit *de die in diem*, and speedily dispose of disputed questions of land values instead of wasting time in hearing scientific evidence on property valuations. He was sure that such a system would work well and economically, give more satisfaction, take much less time, and cause less expense. It was better to leave the question to the decision of one man, instead of having to find a distinct new set of arbitrators.

Mr. CRAWLEY, M.P., said the first inquiry he should make of them was—what was the real object of the Bill? Was it a measure to enable corporations to get rid of unhealthy dwellings and to become the owners of dwellings for the poor? They had not discussed the second question at all. He ventured to think that the Act began with a very wide loophole indeed; for unless they were satisfied with the conditions precedent—the truth of the medical officer's report, the practicability of applying a remedy, and the sufficiency of their resources as corporations, they were not bound to accept the Bill at all. Another question was, what power was there offered by this Bill that did not already exist. Under existing Acts they had power to declare this very property unfit for human dwellings. They had the power to order them to be improved or demolished. He did not agree with the expressed necessity for the Bill. Were they, as corporations, to become owners of cottage property to let out to working people? His feelings were entirely against it. He believed, if adopted, it would lead to an immense amount of discord, confusion, and probable jobbery. Owners of property would complain that corporations were competitors, and if they charged a certain rent an outcry would be raised by the artisan class that the corporations were not fulfilling their duties by letting the houses as they ought to do. He did not believe that owners of property could have confidence in arbitrators appointed in the manner prescribed by the Bill.

After some further discussion the following resolution was unanimously passed:—"That this Association, while approving the objects and general scope of the Artisans' Dwellings Bill introduced by Her Majesty's Government, consider the Bill is capable of much improvement in its details, more especially in Clauses 5 and 7, which in their present form are considered very objectionable."

THE LONDON SCHOOL BOARD.

AT the meeting of the London School Board on Wednesday, Mr. R. FOSTER objected to the proposed cost of a school for the accommodation of 506 children, to be erected in Fitzroy Market, Marylebone, and moved that the matter be referred back to the Works Committee to consider whether the building could not be erected cheaper than at the rate of 16l. 14s. 6d. per child, the lowest tender being 8,463l.

Mr. CUMBER regretted that the cost should be so high. The Works Committee had, however, a good deal of difficulty to contend against in this case. The site stood by itself, and had a frontage to four streets. The school would be of one storey, and there would be a playground at the bottom and another playground on the top.

Mr. FREEMAN, the Chairman of the Finance Committee, said the ideas of the first Board were as poverty itself in comparison to the action of the present Board, for what with costly open playgrounds and proposals for covered playgrounds, the adoption of means for keeping the wind and sun from the children, the rates were running up very high indeed, and he should not be surprised to see the education rate get as high as 6d. in the pound if they did not commence to expend less money on school buildings.

Several other members having spoken against the large cost of the proposed school, Mr. Foster's proposition was, on a division, lost by 9 to 14.

Mr. LAFONE moved, as another amendment to the recommendation of the committee to accept the lowest tender, "That the matter be referred back to the Works Committee, with the view of seeing whether the cost of the building could be lowered by dispensing with the top playground."

The proposition was carried by 12 to 10 votes.

PARLIAMENTARY PROCEEDINGS.

TUESDAY, MARCH 9.

Fires in London Theatres.

In the House of Commons Sir W. FRASER gave notice that on an early day he would call attention to the inadequate provision for the safety of the public in cases of fires in London theatres.

Gas and Water Works.

Mr. COLMAN asked the President of the Local Government Board whether it was the intention of Her Majesty's Government to introduce a Bill during the present Session for better enabling Municipal Corporations or sanitary authorities to acquire gas or water works, and whether the Local Government Board had made any recommendation thereon.

Mr. SCLATER-BODDIE.—It is not intended to introduce any Bill specially dealing with the subjects referred to. But it may be convenient to the hon. member and to the House that I should state shortly what are the existing powers with respect to gas and water, and to what extent they will be varied by the Public Health Bill, which was delivered this morning. Under the existing law, sanitary authorities can purchase water-works by agreement and provide waterworks in places where there is no company, or where a company is unable or unwilling to supply sufficient water for all reasonable purposes. The Bill will extend these powers by enabling a local authority to carry water mains outside their district, and to supply water to the authority of an adjoining place. At the present time sanitary authorities have no power under the general law to construct or purchase gas works. They can only contract for public lighting and provide lamp-posts, &c. The Bill will enable them to purchase gas works by agreement, and where there is no company they may, by provisional order, obtain authority to establish gas works for their district.

THE UNITED KINGDOM AQUARIUM COMPANY.

A LIMITED liability company has been formed under this title for the purpose of erecting aquaria in various parts of the country, as well as concert and floral-halls, club-rooms, &c., to be attached to them. The architects whose services have been secured at present in connection with the undertaking are Messrs. W. & G. Audsley, of Liverpool, and Mr. C. H. Driver, of Westminster. A general plan of arrangement for the buildings has been suggested by Mr. Willert Beale, than whom no man has had more certain opportunities of discovering what is likely to meet the public taste in matters of entertainment. The corridors of the aquarium are to surround a square court, which will be roofed in, and will thus form a place of assembly admirably adapted for a variety of uses.

Liverpool has been selected as the first place in England to erect the Company's buildings, and Kingstown, near Dublin, is the first in Ireland. For the former a site in Myrtle Street has been selected, and the buildings will include a large aquarium, a floral hall or assembly room, a public hall, shops, club-rooms, and galleries. It is expected that the cost of erection will not exceed 50,000*l.* On the lowest calculation the returns must here exceed 8,000*l.* a-year, and, allowing a fair sum for expenses, the profits ought at least to equal those of the Brighton Aquarium, or 10 per cent. The Kingstown buildings are not to cost more than 20,000*l.*, and the profits should here be similar.

From the great interest which the public are now taking in aquaria, the undertaking appears to be one which must succeed. The expenditure on the Liverpool and Kingstown buildings is to be kept within the estimates and there will be no second issue of shares without the consent of a general meeting of shareholders.

LEGAL.

Sheriffs' Court, Red Lion Square.—March 8.

(Before Mr. Under-Sheriff BURCHELL and a Special Jury.)

BOUTCHER v. THE LONDON SCHOOL BOARD.

This was a compensation claim in reference to property at Notting Hill, required by the School Board of London. The value of the house and land to be taken for educational purposes, put upon the same by the surveyors on both sides, was somewhat remarkable.

Mr. Day, Q.C., and Mr. Patchett were for Mr. Boucher; Mr. Hawkins, Q.C., and Mr. Freeman for the School Board.

The claimant had taken a lease from Colonel St. Quintin. He built Ionia House for his own residence, and two houses in Portobello Road. He had an acre and a half of ground which he used as a garden and croquet ground, and was restricted by his lease to use it as a nursery or garden ground. The acre of land, which he used for his family, was required by the School Board, and one of the houses in Portobello Road as an entrance to the school. Besides the value of the one required, which was let at 55*l.* a year, a sum was asked for the depreciation of the other house on account of the noise by the erection of the proposed school. The sum of 900*l.* was proposed for the house to be pulled down, and the main question was as to the acre of land, with the erections thereon, now enjoyed by the claimant. Evidence was given that to a nurseryman it was worth about 120*l.* a year, and a large sum was asked for it, making, in the opinion of the surveyors for Mr. Boucher, about 3,600*l.* for the property.

On the part of the School Board the valuation put on the property was from 1,900*l.* to 2,000*l.*, and the sum as asked was said to be monstrous. The value was put on by nurserymen, when it was known that the land was required for a great public undertaking. It was admitted that 10 per cent. was to be allowed for a forced sale.

Mr. HAWKINS invited the jury to arrive at the conclusion that 1,900*l.* was a fair sum to be awarded—900*l.* for the house required, and 1,000*l.* for the land. He denied that the erection of a school would be a depreciation of the other house.

Mr. DAY contended that Mr. Boucher was entitled to 2,100*l.* for the acre of ground besides the 900*l.* for the house to be taken; and he also asked the jury to award a sum for the other house, which would be injured by the erection of a school.

Mr. Under-Sheriff BURCHELL told the jury that the principal discrepancy in the case was as to the land and the alleged depreciation of the adjoining house by the other being taken by the School Board. On one side 1,000*l.* was put forward as sufficient, and on the other upwards of 2,100*l.* was asked for the land. The question of depreciation to the house to remain was difficult. The injury by the school was put at 480*l.* while on the part of the Board it was denied that any damage would be done by the noise of the children. It would be for the jury to consider and to decide that difficult question.

The jury retired, and after an absence of a quarter of an hour, found a verdict for 2,400*l.*—2,000*l.* for the purchase of the house and the land, and 400*l.*, they said, "for the deprivation of access and the nuisance of the school."

General

Mr. F. A. Skidmore will deliver a lecture to-day (Saturday), at the Royal Architectural Museum, "On the Use of Gold in Ancient Architectural Enrichment, and its Influence on Conventional Forms," and on the following Saturday Mr. William Brindley will lecture "On the Carving of Natural Foliage."

The Society for the Encouragement of the Fine Arts held their second conversation at the Bethnal Green Museum on Thursday evening. On the 18th inst. Mr. G. F. Teniswood, F.S.A., is to read a Paper before the Society "On First Principles in Art Study."

M. Charles Blanc, the well known writer on art, intends to offer himself as candidate for the seat in the French Academy vacant by the death of Jules Janin.

Mr. Thomas Brassey, M.P., a short time since presented the Model Houses Association for Improving the Dwellings of the Poor with six cottages, and he has added to this gift a donation of 500*l.*

Sir Richard Wallace has accepted the presidency of the Ipswich Museum, vacant by the death of the late Mr. Charles Austin.

Mr. Ruskin read a Paper on Thursday evening at the London Institution upon "The Simple Dynamic Conditions of Glacial Action among the Alps."

Mr. J. T. Burgess, at the annual meeting of Warwickshire Archaeologists' Field Club, delivered an address on "The Fortifications of Warwick," giving the results of recent discoveries he had made with regard to ancient earthworks and other fortifications of Mediæval Warwick.

Mr. Fuller, the sculptor, died at Florence on Wednesday.

Mr. C. T. Lewis writes to say that a gentleman in the neighbourhood of Bristol recently applied to him for an opinion as to the genuineness of a picture he had purchased as one of Mr. Lewis's. It was found to be a copy, signed with the initials reversed. Mr. Lewis has since heard of a copy of another of his pictures in London.

Mr. William D. Nisbett, of the firm of Melk & Nisbett, civil engineers, Sunderland, has been appointed, out of a large number of candidates, to the office of Civil Engineer to the Government of Queensland.

Mr. R. W. Buss, a once well-known artist and lecturer on fine art, died on the 5th inst. in his 71st year. His principal works were, "The Hearty Squeeze," bought by the late Duchess of St. Albans; "Frosty Morning," "Satisfaction," "First of September," "Soliciting a Vote," "Introduction of Tobacco," "Time and Tide Wait for no Man," "Christmas in the Olden Time." He contributed largely to Charles Knight's editions of "London," "Shakspeare," and "Old England."

A Memorial Bust of the late Sir Sterndale Bennett is to be placed in the Cutlers' Hall at Sheffield.

A Statue is to be erected in Madras as a memorial of Mr. Powell, who has been Director of Public Instruction in India.

Two Stained Glass Windows are to be placed in St. Thomas' Church, Portsmouth, as a memorial of the late Vicar.

The Gough Equestrian Memorial for Dublin, originally designed by the late Mr. J. H. Foley, is to be completed by Messrs. Brock, Birch & Dewich. Mr. G. F. Teniswood, the acting executor of Mr. Foley, has undertaken to have the work finished and erected within two years upon the terms agreed to with Mr. Foley.

A Cast of splendid early metal-work has been acquired by the South Kensington Museum. It represents the light bearer of Hildesheim Cathedral, and is one of the finest specimens of its kind extant, and dates from the eleventh century.

Plans have been submitted in competition for the New Workhouse at Shap by Mr. J. P. Jackman, Hounslow; Mr. Mawson, Penrith; Mr. D. Birkett, Carlisle; Mr. J. J. Bradshaw, Bolton; Mr. W. H. Spall, Oswestry; Mr. Stephen Shaw, Kendal; Mr. J. Starkie, Kendal; Messrs. W. Perkin and Sons, Leeds; and Messrs. C. S. and A. J. Nelson, Leeds.

An Ancient Roman gold coin has lately been found at Lowestoft, in the Kessingland Cliffs. On one side is a bust of the Emperor Nero with the inscription "Nero Caesar," and on the obverse side are the words "Augustus Germanicus," surrounding a singular figure apparently with a torch in its hand.

A Marine Aquarium and Winter Garden are to be formed at Leeds. Negotiations for a site are now in progress.

The Choir of Rochester Cathedral, which has been closed during several years for restoration, is to be re-opened on June 11.

Street Indicators—an invention of Mr. C. E. Parker Rhodes—are about to be fixed to many of the public lamps in the parish of Chelsea. They are transparent, and show equally well by night or day.

The Birmingham Town Council are about to borrow 180,000*l.* to be expended in the paving of some of the streets.

The Registrar-General's Annual Report for 1872 has been issued. It says that the most remarkable feature of that year was the excessive rainfall. During the last quarter rain fell at Greenwich on sixty-seven days, a greater number than had been previously experienced as far back as the year 1815. The total fall in the sixty-seven days amounted to 11.32 inches. It has been shown that an inch deep of rain weighs nearly 101 tons per acre, so that upwards of 1,100 tons of water fell in the last three months of the year on each of the 37,000,000 acres of England and Wales.

The Experiment of introducing strained wires is being tried in Bath Abbey, other means having failed to remedy the difficulty of hearing.

At Mr. and Mrs. German Reed's Entertainment several novelties are to be produced, the earliest of which will be a piece from the pen of Mr. F. C. Burnand, entitled "Old China," with music by Mr. J. L. Molloy. "The Ancient Britons" will be withdrawn from the programme after Easter week. Mr. W. S. Gilbert is also preparing a new entertainment.

The London and Brighton and the London, Chatham and Dover Railway Companies have consented to issue to students in the Crystal Palace School of Art, Science and Literature, actually attending, special season-tickets for conveyance by railway, at greatly reduced rates.

Forthcoming Contracts.

Some extensive works may probably be carried out for the St. Pancras Iron Company, St. Pancras Road. Mr. D. Cubitt Nicholls, Architect.

A new farm-house and homestead will shortly be erected at Harpenden, Herts, for Mr. C. Reading. Messrs. R. & J. Goodacre, of Leicester, are the Architects.

Tenders are immediately required for a large new military brigade depot at Reading.

A new brigade depot will shortly be erected at Lincoln. The quantities are in the hands of Messrs. Gould & Brown.

Tenders are immediately required for building Nos. 5 and 6 St. Agnes' Villas, Bayswater, for Mr. Harry Emmanuel. Messrs. Joseph & Pearson, Architects.

The Architect.

THE INSTITUTE MEDALS.



It was certainly not without good cause that the Institute meeting of last Monday evening congratulated itself at the commencement upon the display of drawings submitted by candidates for the honour of receiving the various medals of the year; and it was almost with equal reason that towards the close of the business something like doubt came to be expressed as to whether the programme for the next annual competition does not actually propose in the way of work more than enough for competitors to be asked to overtake.

It has to be remembered that these interesting contests are all laid out almost specifically for those young men of the profession who constitute the order of students either as pupils or junior assistants. The actual restrictions are not perhaps so to be interpreted, but practically the result is that the recipients of the rewards are from eighteen to five or six and twenty years of age. An important question, therefore, which arises in this view of the case is that of the amount of such work which a young man is able to accomplish in his evening time, this being of course his only leisure; indeed we might say the amount of such work which his seniors ought to encourage him to attempt in these times of all-pervading hurry, when he has probably quite enough of drawing during the day to tax his strength to the utmost reasonable limit.

The first business which came up on Monday evening (after the cordial approval of the nomination of Mr. EDMUND SHARPE for the Royal Gold Medal) was the award of the Soane Medallion. This prize carries with it a special gift of 50*l.* from the Institute funds, as a contribution towards the expenses of travel for six months abroad; and it consequently takes rank with the "Travelling Studentship" of the Royal Academy and the "Pugin Travelling Studentship" of the Institute as a reward of the first importance. On the present occasion there were no less than thirteen sets of drawings sent in for this prize. The subject was a Town Mansion of considerable pretensions, and consequently each of these sets of drawings was in fact a complete design for the house such as an architect would lay before his client. We have seen the time when two or three competitors were all that could be got to enter the lists; and indeed it has happened several times that no award at all could be conscientiously made. The presentation of so many as thirteen designs was therefore enough to be made a subject of special rejoicing; and, what was quite as much to the purpose, it was considered by the Council to warrant them in exhibiting exceptional liberality. In a word, they had to propose to the meeting that, in addition to the Soane Medallion itself and the 50*l.* in money, three secondary honours should be granted to the most meritorious of the unsuccessful candidates; and it is another cause of satisfaction to have to note that the meeting even augmented this award by bestowing upon the foremost of these extra prizemen a medal of higher class than that suggested by the Council. Of the thirteen young gentlemen, therefore, who competed, four have their names published as having achieved the recognition of success; and, as no one who saw the exhibition of designs could hesitate to approve this result, so also we may say it is in every way honourable both to the students and the Institute, as we hope it may none the less turn out to be a good omen for the future. The subject determined upon for next year is a Country Mansion of large size; and we may reasonably expect to see other thirteen designs, or even a still greater number, submitted for a problem of that class, which is at once so easily studied, and capable of affording to the designer such extreme pleasure in the performance of his work.

The second part of Monday evening's display was a collection of ten sets of "measured drawings," or complete illustrations drawn to scale and figured, representing ancient edifices hitherto unpublished. In this as in the former instance the character of the drawings was exceptionally high. The prize offered was the silver medal of the Institute with a few guineas added; and this reward was carried off by a very fine series of delineations of the Guildhall at Exeter. But here again the Council had found it impossible to avoid recommending some further acknowledgments of merit, and a second Institute medal was proposed to be given for an admirable representation of St. John's, Adel, Yorkshire, with a medal of merit for another set of drawings and two certificates of honourable mention to still others. Suffice it to say that all this was cheerfully confirmed by the meeting; and indeed we were pleased to find that although a little independent criticism was duly indulged in, the result only tended to show that the work of the Council had been well done, both in this case and in that of the Soane Medallion alike.

Whether this competition of drawings of old buildings is not of

equal, or indeed more than equal, importance with the Soane competition of original designs, it is scarcely easy to say; and it is especially to be remarked that, whereas the Soane competition is limited to candidates under thirty years of age, this other is open to competitors of any age. It seems also doubtful whether we ought to congratulate the Institute upon having so many as ten sets of drawings of this order to adjudicate upon, or whether we ought to call for a larger number. The supply of eligible material for such a competition may be supposed to be somewhat limited, and the supply of men above the age of students who have leisure for such work as the elaborate measurement of second and third rate remains must be still smaller. It seems to us therefore to be worthy of consideration whether the programme of this particular competition might not be advantageously revised. If it should happen, for example, that one of the senior members of the profession were to deliver a set of illustrations of the kind in question as the work of a holiday week, and to be successful, or possibly to be unsuccessful, the situation would be very likely to be thought a little absurd. On the other hand if the invitation were to be confined to young men, and the resulting drawings judged of strictly on that understanding, it is not improbable that the amount of work sent in might be even greater than it has been this year, and it is almost certain that some amount of special interest might be made to attach to the competition. The question may be asked whether the purpose is to encourage the delineation of undelineated remains by our more competent archaeologists, or merely to promote the cultivation of study by measured drawings on the part of our young architects. Either object is sufficiently creditable, but it ought scarcely to be matter of doubt which of the two is really entertained.

A student's prize in books is annually offered for the design of some suitable subject. This year one drawing only was received, and it has been refused the prize. Not only is this incident to be regretted, but we are told that the competition is as a rule altogether unsatisfactory. This ought to be investigated; there must be a mistake somewhere. The corresponding prizes of the junior society seem to be fully appreciated, and there surely cannot be any reason for the case being otherwise in the senior. One reason assigned is that the subjects have been unsuitable, and we perceive that the one for next year has been more particularly selected with a view to the actual preferences of the competing class. So far so well, and we hope at any rate to see on the next occasion a sufficient number of drawings submitted, and to find that the adjudication has proceeded upon a correct impression of the limits of a student's skill. Perhaps after all the real difficulty may arise from the fact that the class of "Students of the Institute," to the members of which this competition is confined, does not of late years seem to have been keeping abreast with the times.

Two new prizes are offered for next year. The annual dividends on Sir WILLIAM TITE'S bequest, amounting to 40*l.*, are to be bestowed as a reward for the best design for a large Concert Hall, of course in the Italian style; and the annual gold medal left to the Institute by the late Mr. GRISSELL is appropriated to a competition of drawings of a purely constructive character for the Entrance Hall and Staircase of a Town Mansion. We must regard both of these proposals as experiments of great interest. The one aims at the direct advancement of what has been called "Modern European" design, and the other at the equally direct encouragement of a more practical knowledge of building.

The Pugin Travelling Studentship, of the value of about 40*l.* a year, has to be competed for early in 1876, and we need scarcely remark that this is attached to the study of Gothic architecture in almost exactly the same way as the TITE prize is associated with Classic.

One of the standing competitions of the year has still to be mentioned, namely, that of the essays which are annually invited for the prize of an Institute silver medal, with supplementary medals of merit if necessary. No essays at all, as we understand, were received on this occasion; and, as was urgently pointed out to the meeting, this is a state of things which ought not to be. There does not appear to be any want of architectural writers when questions of disputed taste, for instance, have to be acrimoniously debated in the correspondence columns of the press; and why there should be absolutely no response to an authoritative call for dispassionate dissertations on subjects of more substantial interest, as contributions to the general stock of knowledge, we fail to see. It is to be hoped, at any rate, that the Institute authorities will make it their business to inquire into this as a failure of policy.

We have noticed the remark made on Monday that all these temptations to the student may perhaps prove to be little more than so many rival inducements, which, by the excess of their aggregate, only tend to embarrass each other; but we hope this may not be so. To all who, as students and beginners in life, desire to acquire a mark of advantage before their profession, the whole of these opportunities must be equally recommended, and the only real difficulty with any intending competitor seems to be to discover which is the one in which his chances of success most nearly approach to a certainty. One thing we should like to see is the introduction, as a rule of pupilage, of the principle that the preparation of such work should be done during office hours, in order to reduce the strain of night-work upon young heads and eyes.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

The Two Gentlemen of Verona.

TO be chronologically correct I ought to have placed this play before *Othello*, for the date of the action must be taken to be prior to 1535, because in that year died FRANCESCO SFORZA, the last Duke who ruled nominally as an independent prince, although really under the Empire. After FRANCESCO's death the Emperors, CHARLES V. and FRANCIS I., carried on their contention for the possession of the Duchy, which, in 1540, CHARLES added to his other possessions. In 1555 he, however, gave up all to his son PHILIP, who he had already created Duke of Milan, and the title became from this a mere appanage of the Imperial Crown. The tone of the play is thoroughly peaceful, and we have to make our choice between the later quiet time of 1529-1535, that is, after the treaty of Cambrai, and some earlier period of quiet, such as that which followed the battle of Pavia. The references in the text to SHAKESPEARE's own time incline me to adopt the later period.

The architectural scenery is divided between Verona and Milan, and may be thus summarised:—

Verona.—An open place, Act i. Sc. 1; Act ii. Sc. 3.

JULIA's house; exterior, Act i. Sc. 2.

interior, Act ii. Sc. 2 and 7.

ANTONIO's house; interior, Act i. Sc. 3.

Milan.—The Duke's Palace. Interiors: Act ii., sc. 1, 4, and 6; Act iii.; Act iv., sc. 2, 3, and 4; Act v., sc. 2.

An abbey; Act v., sc. 1.

A street; Act ii., sc. 5.

The three remaining scenes are laid in the forest near Mantua.

Now, although the Verona of JULIA must have been different from the Verona of JULIET, yet the difference created in the two centuries, which elapsed between the dates of the two stories, was felt, perhaps, as little there as in any town in Italy. The greatest change was due to the fortifications erected from the designs of SAN MICHELE, who died in 1549, and who was between 40 and 50 years old at the time I have accepted as the period of the story of the Two Gentlemen of Verona. But, for a full century before this, the style of the Renaissance had been practised at the great architectural centre on the other side of the Apennines, for the Riccardi palace at Florence was begun in 1430, and the Pitti palace only five years later. Nearer JULIA's home we find that the Vandramini palace at Venice was begun before she was able to toddle about alone, whilst at Milan the north wing of the great hospital was commenced as early as 1456 by one FILARETE, an architect of Florence. But whether we "trudge about through fair Verona" or peruse the streets of Milan, we shall find the builders more or less busy with the fashionable style, pulling down old walls of Romanesque and Early Pointed character, and setting up in their places a very free translation of the Classic Orders.

The open place, square, or wide street of the first scene of Act i. and the third scene of Act ii., might show, not only the Renaissance, but the other three great phases of architecture through which Verona had passed. One or two new buildings in the Free Classic style of the hour would give us, so to speak, the time of day; and the long history of the little aristocratic town might be traced through Pointed arch and Romanesque shaft up to the pilasters and friezes of the time of THEODORIC the Goth, and so to the still earlier work of his predecessors. For the general character of these buildings I refer the reader to my notes on the play of *Romeo and Juliet*, in the *Architect* for November 14, 1874. The two houses introduced in the first and second acts are, I need hardly say, palatial in character, for that ANTONIO is a nobleman, and JULIA the daughter of a nobleman, are facts settled for us by the text. We may perhaps be allowed to go further and say that ANTONIO is an old-fashioned nobleman, for he has kept his son PROTEUS at home, until importuned to send him away by his brother, the prior probably of that Franciscan house where our old friend Friar LAWRENCE once busied himself in toxicology. ANTONIO's servant too is allowed to hold free converse with his "lordship," and to counsel his master in family affairs: from all which it may not unreasonably be supposed that his palace or house would be of some age, and if we only give it 200 years we shall find it a fully-developed Gothic structure, with O. G. trefoils to the window-heads, marble balconies, and all the other charming detail which Mr. G. E. STREET has so well illustrated in his book on "The Brick and Marble Architecture of Italy." The lady JULIA might dwell in a still older house, for, unlike the lady of Belmont, she does not appear to have been a very desirable match in a financial point of view, for PROTEUS feared to show his father JULIA's letter lest ANTONIO should take exception to his love. True it is she has some landed property, as well as a house full of goods and chattels, but they are not so great as to prevent her leaving them at the complete disposal of her maid LUQUETTA.

In Milan we have a street, an "abbey," and the ducal palace. The short scene of twelve lines which begins the fifth Act might well be transposed, and thus the "abbey" got rid of altogether. If it be retained we must remember that it is a convent of *frères*, and consequently not an abbey like that of St. Ambrogio, but a priory of one of the four orders, Dominicans, Franciscans, Carmelites, or Augustinians. The streets of a place like Milan in 1535 would be

brilliant with new cut stone and marble in the style of the Renaissance, many palaces and houses would have already been built, and many others would be in course of erection. The place would be quite gay with the fashions of the time, and crowds of new dresses would be backed up by crowds of new buildings.

As Bath is to Wells, or Cheltenham to Gloucester, so Milan was to Verona, and the scene painter who omits to show us this distinction is guilty of gross neglect altogether unpardonable in days when real fire-engines, broughams, and such like gear are brought on the stage with a view to completeness in the realisation of a scene in some fleeting sensational entertainment. Of the ducal palace, in the rooms and courts of which so much of the action of the Two Gentlemen of Verona is carried on, we have no remains to guide us, except the tower of the mediæval palace erected by AZZO VISCONTI about 1330. GIOTTO (ob. 1336) certainly painted the walls of some of its rooms; and, although portions were rebuilt during the fifteenth and sixteenth centuries, the fourteenth century was still strongly marked on it up to the time when Gothic and Renaissance together fell before what we call "the hand of modern improvement." The architecture, therefore, of the Milan Palace may be Gothic of 1330, or Early Renaissance, or both.

The costume of the youths who attended the Imperial Court, of the EMPEROR—who might be seen in procession, though not found in the *dramatis personæ*—of the Duke of MILAN, of the lords and ladies of Milan and Verona, of gentlemen from the courts of FRANCIS or of HENRY, of artists from Florence and merchants from Venice—may be sought in paintings, contemporary MSS., drawings, engravings, and sculpture. But wherever the theatrical manager may be led to seek for his authorities, it is to be hoped he will be consistent, and not expect GIORGIONE, who died in 1511, to furnish him with the costume of 1530. He must or ought to know that whatever later painters, looking to the past, may have done, it is impossible that painters who died years before the period we attempt to illustrate can be fairly regarded as authorities for the fashions of that period. For instance, VERONESE can scarcely be quoted on the costume of 1530, since he was a tiny boy only when PROTEUS married JULIA. On the other hand, TINTORETTO, who was a young man, and TITIAN, who had reached a ripe age, may be implicitly followed. But TITIAN is more than an authority for us in this play. As a favourite artist with the EMPEROR, he might very possibly have received a summons to attend CHARLES at Milan, so that we may well have among the figures in our background the great colourist of Venice. The text of the Two Gentlemen of Verona supplies many references to costume, e.g., THURIO's "jerk in is a doublet;" THURIO's servants have "bare liveries;" JULIA's hair is knit up in silken strings with "odd-connected true-love knots;" and the particular cut of her trunk hose is specified. Mention is also made of gloves—then manufactured extensively in Italy—sun-expelling masks, purses, periwigs, high boots, and long cloaks.

The list of moveables includes trenchers, looking-glasses, pictures, salts, a rope ladder with grappling or "anchoring hooks," tablets (of ivory), and musical instruments. And although no doubt the words refer to articles SHAKESPEARE had himself seen, yet there is nothing inconsistent with the date I have selected for the action, for although the looking-glass was not commonly used until after 1564, when the glass mirror makers of Murano were incorporated as a distinct guild, we have it on record that in 1507 two men of Murano claimed before the Council of Ten to have invented a way of making good mirrors of crystal glass, and had a monopoly granted them for twenty years. The "bare liveries" of THURIO's servants is explained by this passage in the Merchant of Venice—"Give him a livery more guarded than his fellows," the guards being the horizontal bars of lace or braid, as we should now call it, which more or less covered the front of the doublet, and without which any livery must, by comparison with others, have indeed looked bare. As to the general fashion of the costume, I refer the reader to the remarks already made on the costume of this period in my notes on Henry VIII. In our National Gallery we have a portrait of a lady of Genoa by PARIS BORDONE (1500-71) which might be copied for SILVIA, although the colour of the hair in the painting is like JULIA's—"a perfect yellow." SILVIA's hair was auburn, and her forehead was low, while JULIA's was high, so that we get quite a charming contrast in the two ladies of the play, whose only point of resemblance seems to have been in the eyes, which in both were as "grey as glass" (i.e. the glass of SHAKESPEARE's day). ANGELO BRONZINO (1502-72) has supplied us with more than one portrait of the time, and the actress is free to choose between him and BORDONE. We have also by PONTORMO (1494-1556) a life-size full-length portrait of a boy in crimson and black, which, merely as a piece of colour, would be invaluable in a stage picture. Then, again, from the hand of SEBASTIANO DEL POMBIO (1485-1547) we have a likeness of himself, the Cardinal IPPOLITO DE' MEDICI, and the lady GUILLA GONZAGA of Mantua. At the Kensington Museum there is also much from which we may derive valuable information in any endeavour to realise the aspect of persons and things in Northern Italy during the period under consideration. There we can find almost everything which was required to furnish a palace—chests, cabinets, chairs, tables, hangings, candlesticks, candelabra, brackets for lights, lamps, lanterns, chandeliers, caskets, picture-frames, inkstands, books, musical instruments, andirons, fireirons, bellows, mirrors of polished steel, glass, statuary

materials for dress, swords, and numerous other examples of the armourer's art, and last, though not least, a fine collection of specimens of the work of the goldsmith and the jeweller. There, too, are carved friezes of Italian rooms with the gold and colour still preserved, some wood carving from the panelled ceiling of one of the Renaissance rooms of the Ducal Palace at Milan, and even carved columns and pilasters. And yet, with this wealth of authority at our very doors, is there one theatrical or stage manager in London who takes sufficient interest in art or education to use even one department of this admirable collection?

TOWN AND COUNTRY BUILDINGS.

THE difference between town and country is as wide as that between art and nature, or between reason and instinct. Man made the town, it is said, but God made the country. If this be so, no small difference will be traceable between the buildings proper for town and for country—that is to say, when the buildings are in “keeping” with their surroundings; and it seems worth while to investigate the quality of a distinction which even an untrained judgment can perceive quickly enough. A countrified-looking house in a town, or a townish house in the country will be pointed out by the most careless observer without hesitation; yet it may not be easy, even to the careful student of architecture, at once to say where the peculiarities lie which give the character which each building possesses.

The whole question of the nature of architectural character, and the qualities in which it takes its rise, is a subtle one. One building suggests one set of ideas, and another building appears out of harmony with those ideas, but in keeping with ideas of a different order, no doubt, to a large extent, in consequence of arbitrary association. For instance, the popular prejudice against large blocks of industrial dwellings and similar plain regular buildings is that they look like a union workhouse. Now a workhouse is singularly devoid of any definite character; but, because it is large, regular, plain, and somewhat formal, the common mind has very much imbibed the idea that all buildings with these qualities are of the same family. Another, and a much more remarkable illustration is offered by the general feeling about Gothic. The Pointed style of architecture which has come down to us from the middle ages almost exclusively in cathedrals, churches, and monastic buildings was long felt by many people to be a church-style, and, as such, not suitable for secular buildings; and we strongly suspect that, were architects and their employers to be perfectly candid, a lurking remnant of this feeling would have to be confessed now, even by those who, as a matter of judgment, are ready to admit that the Pointed style is appropriate for secular as well as for sacred buildings, and who do not hesitate so to employ it.

Combined with association, and even independent of association, obvious adaptation gives character to a building. In any case where the purpose is peculiar, and an ordinary observer can detect adaptation to that purpose in the aspect of the building, there can be no question that an appropriate character is gained at once for the structure. For instance, a good city bank displays space on the ground-floor, ample light, good ingress and egress, and a certain grandiose yet durable solid and trustworthy air, with a business-like avoidance of florid ornament. These characteristics express well the adaptation of the building to the purposes for which it has been built, and to the character which its owners would desire to acquire with the public; and of any building possessing these qualities an ordinary observer will be very apt to say that it looks like a bank.

Let us now consider how far these two elements of architectural character, namely, association and appropriateness, affect the question of town and country buildings. The leading peculiarity of a town is restriction of space and enforced regularity, and the leading peculiarity of a townsman, is, perhaps, his desire to equal other persons in his own circle. Hence town houses are narrow, tall, and uniform, and it is the uniformity, even more than the narrowness or the loftiness, which stamps upon them their city air. There are many miles of houses, for example, in London arranged in streets and terraces the components of which are identically the same, in size and cost, and present fronts to the passer-by which can only be distinguished from each other by the number on the street-door; and this painful uniformity is really an outcome of modern civilisation and of a citizen's usual frame of mind. If the houses in Harley Street or in Onslow Gardens were not all the same one with another, half the benefit to a physician of taking a Harley Street house, or to a merchant of moving to the Gardens would be lost. As it is, the step is a kind of claim to a certain amount of position and income. A man who goes to live in exactly the same sort of house as another is making a kind of bid to be recognised as on an equality with his neighbour. Whether this feeling has grown out of the almost necessary regularity of street buildings, or has in part given rise thereto, it may be hard to say; but however they began, the two things now act and re-act, so that formal regularity and sameness of modern cities, at least as far as dwelling-houses are concerned, is an almost essential ingredient in the architectural character of town buildings.

When we come to shops and public buildings we come to features which are essentially civic. The town shopkeeper is not at all satis-

fied to stand on an equality with his neighbour; he wishes to out-do him. He is rooted to his situation, and any rise in fortune which he experiences cannot be expressed in the same way as it can in the case of his house. He does not remove his shop, as he can his dwelling, from one street to another; all he can do is to put in a new front with bigger panes of plate-glass than his neighbours, or, perhaps, to take in the adjoining premises, and so double his frontage. Here then we have an element of diversity introduced, and as a matter of fact, we shall find few streets in any modern town where the shops are not as various as the dwelling-houses are monotonous.

Public buildings, of course, are peculiarly characteristic of town architecture, from the fact that they exist nowhere else than in cities, with the solitary exception of the parish church; and of asylums, hospitals, and other outgrowths of modern civilisation, we can only say that they have a separate element of their own, more allied to town than country.

Town buildings, if they are monotonous, are also crowded. There is no space to spare; frontage is too valuable for an inch of it to be given up, and height is the only dimension in which it is tolerably easy for the builder to allow himself a little licence. Narrow and lofty fronts are therefore the order of the day, and the houses are nothing but front, for they stand side by side like soldiers on parade.

Turning now to the country, we find at once a fresh set of motives and a new series of conditions, and, as a consequence, an entirely different result. Space is no longer circumscribed; uniformity is no longer either desired or enforced. Individual features, instead of being out of place, are sought for and appreciated, and extent rather than height is the direction in which expansion is possible. The most incongruous object which the hand of man can frame is a tall thin street house planted (as is sometimes to be seen on a freehold land society's plot) in a green field, looking as though it had strayed away from London streets and got lost. The most appropriate country building is a long, low, rambling, irregular dwelling looking as if it had grown to its present condition like a tree, rather than as if it had been planned and constructed in a regular way, and as full of distinctive and peculiar features as any oak on the village green or any crag in a hill side.

Arbitrary association between a certain building and a certain set of ideas, if combined with obvious fitness, produces, as was already remarked, an almost irresistibly forcible quality of architectural character, and nowhere is this more strongly felt than in a good homestead. Every portion of the farm buildings looks like what it is. The stable, the cow-house, the cart-shed, but above all the barn, not only tell their own story, but also resemble so strongly the buildings we have seen all our lives long appropriated to the same purpose, that they affect the mind with an intensely strong sense of character; nor is the air of snug homely comfort which breathes through every part of a good farm-house a whit less effective or less appropriate. How far the alterations which steam cultivation, artificial manures, and high farming bring in their wake may change the aspect of farm-buildings is yet to be seen, but there is every reason to believe that the modifications they may undergo will be no improvement from the artist's point of view. This, however, is not the subject immediately before us. If we pass from farm-houses to dwelling-houses, we shall notice that the influence of ample space and freedom from restriction on the one hand, and emulation on the other, gives rise to an irregularity, a wide-spreading extent of building, and a strongly-marked peculiarity in the aspect, outline, and general appearance of each house, mansion or cottage, which contrasts utterly with the symmetry, regularity, and even monotony which are found to be qualities suitable for street architecture.

The practical lessons to be learnt from this inquiry seem to be that the country calls for buildings which are irregular—wide spread rather than lofty—strongly marked by individual features—and are in general conformity to the traditions of their locality or the nature of their purpose. The town, on the other hand, requires lofty buildings, and strongly favours uniformity and regularity. If this be true, is there any reason to feel surprise that the various phases of Classic art have flourished most in towns, and that Gothic, with the derived styles, seems most at home in the country? Of course Renaissance work can be irregular and Gothic can be formal, but the true and appropriate use of each style is made when Classic architecture is employed upon such buildings as require to be regular, and Gothic in such as admit of variety and play.

It only remains to add that the qualities which we have attributed to towns are of comparatively modern growth. In the Middle Ages, and for some time after them, there was but little desire or need for uniformity, and often much less pressure upon space in streets than in our own time. Consequently the differences between town and country buildings were less marked, and even in cases where space was precious, and frontages and alignments had to be looked to with care, there existed at that time a strong personal interest in the dwelling-house, such as no one now feels in a town house, and this led to distinctive features being freely employed. This quality makes the street architecture of Belgium, and of the older towns of Germany wear an aspect to the interest of which the monotony of modern London, or Manchester, or even Paris, can lay no claim. Fortunately for English citizens, that which is denied to town houses is often freely permitted, nay, is desired, in public buildings and in places of business, and accordingly in the heart of our great commercial cities structures full of individuality are beginning to spring up

in all the great thoroughfares; and here lies an opportunity for imparting character and beauty to our streets. For ordinary modern occupation, however, the monotony of the regulation terrace, square, or street, is, we fear, but too well adapted; and as such attempts to break through it as have been made have not become popular, a circumstance which, perhaps, is not to be wondered at when we take into consideration the peculiar conditions of modern town life, the wisest course is for the architect to accept the position, and make the best of it. This we are happy to say is being done in London in more quarters than one. The Duke of WESTMINSTER set a good example on the Grosvenor estate, and that example has been followed, with more or less success, in other districts.

EARLY ENGLISH PAINTERS.

THE Exhibition of the Works of the Old Masters and Deceased Masters of the British School, which has just closed, has been the least attractive of any of the series of those Winter Exhibitions which the President and Council of the Royal Academy, six years ago, commenced. Often as we visited it the paucity of the spectators forced itself upon us, and the listlessness of the few was painfully apparent, nor was the cause of this difficult to discern. In place of the gorgeous colour of ETTY, which we were promised, the hard crudities of MACLISE and the rapid river scenes of CALCOTT were given us, and a strong sense of disappointment was manifested at its very commencement. No very valid reason has ever been given for this change of plan, and the only intimation of it was the short notice that it was owing to "unavoidable circumstances."

Unavoidable circumstances are, however, sometimes due to avoidable causes, and though the Scottish guardians of some of ETTY's pictures did not think fit to lend them to the English public, still the works of WILLIAM ETTY are by no means rare, and a little trouble would have enabled the President and Council to have dispensed with that assistance which was somewhat churlishly denied. We know that private collectors offered liberally from their stores, and that a little trouble in selection from, and a little courtesy in acknowledging the offers of this wealth, would have ensured a fine and brilliant display of the works of our best colourist, and the presence of some good colour would have been very grateful this year. Trouble and courtesy are, however, two things in which the Royal Academicians are somewhat parsimonious. Both demand time, and time to painters means money, and money now-a-days seems to be the chief aim of art. If in the future more trouble is not taken and more courtesy bestowed, these exhibitions will soon come to be as apathetically regarded by the public as they now seem to be by the Academicians themselves, and it is needful to sound a warning note thus early in order to rouse a little energy for the future. Possessed of wealth, having just come into the possession of more through CHANTREY's noble bequest, the Academy has no need to grudge the expenditure of the necessary sum to remunerate some of its members, or some learned experts who are not enrolled amongst them, to find out during the summer what pictures are attainable for next winter's show, and we would indicate a course of research which must lead to the discovery of much treasure trove, and open out an unknown mine of wealth.

Perhaps the least known of all phases of the art of painting is that which was practised in England during the sixteenth and seventeenth centuries. Popularly speaking, the existence of any English painters prior to the time of HOGARTH is looked upon as a prehistoric myth, and yet the very fact that from the time of HOLBEIN down to our own day foreign artists have always been welcomed and liberally supported in England proves that art has been favourably regarded. That this should have been the case with a people too careless of art to have cultivated it themselves is an improbability, nor could those great continental painters who lived and died amongst us have passed away and left no trace on the art culture of the country of their adoption. All moderately learned in the history of art can glibly tell the sequence of HOLBEIN, ZUCCHERO, JANSSEN, MYTENS, VANDYKE, RUBENS, LELY, and KNELLER, portrait-painters all of them; but few could enumerate the landscape-painters, even those of foreign origin, who were their contemporaries practising their art in England. Still fewer could enumerate those English-born painters whose works are either forgotten, or whose names are obliterated by the superscription of those foreign artists for whose work they frequently pass, and yet, painting side by side with these masters whom we encouraged, were many men as much esteemed in their lifetime as were the aliens. Several causes have operated to create this oblivion, but the greatest was the rage which, during the latter part of the last and at the commencement of the present century, fell upon men, and induced them to collect a gallery of old masters. The grand tour was then the passport of gentility, a nosebag or a gallery its evidence, and many a better work was consigned to the lumber-room and the loft to make way for the spurious treasures "picked up" in out-of-the-way places abroad, where they were sedulously hidden by those who knew when and where to find. Particularly was this so with landscape art. The pride of ancestry, real or fictitious, preserved the works in portraiture, but landscape art had to yield its place to some marvellous CORRREGGIO or GUIDO, some huge TITIAN, or some fabulously dark SPAGNOLETTI, which had been buried some weeks in cobwebs and had been lost to sight ever since it left the artist's hands. Some of these turn up at these

Winter Exhibitions occasionally—too occasionally, in fact, and it is time that the genuine work of those English painters they displaced was now exhumed. We know many an old house in the country where they decorate the butler's-rooms and the "batchelor's row," and many a genuine bit of English work has the writer placed in a new light before its owner, and it only needs some slight research and some little enthusiasm to bring together for examination and comparison an adequate number to throw sufficient light upon this dark period of art history, and to make others seek for and preserve their treasures. Our old royal palaces, our college halls, our companies and corporations, possess an enormous quantity of paintings by English hands, but they are black and dirty, hung high, or hidden, and there is no means of comparing them together. Even so early as the fifteenth century do we find paintings by English artists, and several exist dating back to the time of HENRY V. At Cambridge and Oxford are portraits of HENRY VII. and his QUEEN, but when we come to the time of HENRY VIII. there is an abundance of materials, for that uxorious personage loved painting well enough to reward its professors, and in rivalry of his more cultivated kingly cousin FRANCIS I. endeavoured to tempt TITIAN to visit this country. His native serjeant-painter, ANDREW WRIGHT, was no mean artist, and the "inventory of the goods, pictures, and furniture in the palace of Westminster, under the care of Sir ANTHONY DENNY, keeper of the wardrobe," contains a goodly list of "tables," showing that the King was no mean collector. This ANDREW WRIGHT was the first English painter who achieved gentility by his brush, and a grant of arms was made to him by Sir THOS. WRIOTHESLY, Garter, himself a virtuoso in his day. JOHN BROWN, another of HENRY VIII.'s serjeant-painters, achieved wealth, and built the Painters' Hall for his Company, and his portrait used to be, and probably is yet, preserved by that little-heard-of livery. The three phoenix heads they once bore so proudly, do not seem very typically true just now. There was "Master NEWTON" too, whom SKELTON, the poet, saw as—

Cast my sight the chambre aboute
To see how duly eche thing in ordre was
Towards the dore as we were coming out
I saw Maister Newton syt with his compass,
His plummet, his pensell, his spectacles of glas,
Devysing in picture by his industrious witte
Of my laurel the proce every whitte,

and a payment of 40*l.*, no mean sum then-a-days, to "LEVINA TIRLINES, paintrix," occurs in the accounts of the treasurer of the chambers. Whether the lady artist was an English woman or not there is no evidence, save that of her name, which may be either Cornish or Dutch.

In the reign of EDWARD VI. lived "that most rare English drawer of story works in black and white, JOHN BLOSSAM, one of skill worthy to have been serjeant-painter to any king or emperor, whose works in that kind are comparable with the best, whatsoever in cloth and in distemper colours of black and white." This is the judgment of a celebrated contemporary artist, NICHOLAS HILLIARD, who was more fortunate than JOHN BLOSSAM, and enjoyed court favour. JOHN BLOSSAM became a parson, or rather a sort of bible-teacher, on free trade in divinity being declared by QUEEN ELIZABETH, whereas NICHOLAS HILLIARD comments plaintively, "if a man be so induced by nature, and live in time of trouble, and under a government wherein arts be not esteemed, and himself but of small means, woe be unto him as unto an untimely birth!"

HILLIARD himself was a man of good birth, an important evidence of the social status in which a native painter was then held. He was the son of a high sheriff for the city and county of Exeter, and was born in 1547, and may be considered to be a pupil of HOLBEIN, for he states:—"HOLBEIN's manner of limning I have seen imitated, and hold it for the best," though, of course, direct tuition from HOLBEIN was impossible.

HILLIARD is chiefly known by his miniatures, of which many exist and to his hand is attributed a great number, the work of other miniaturists of his day, but he did not confine himself to this branch of art. In CHARLES I.'s collection was a view of the Spanish Armada by him, but portraiture was his chief vocation, and Dr. DONNE goes so far, in eulogy, as to say:—

A hand or eye
By Hilliard drawn is worth a history
By a worse painter made.

Gossiping old PEACOCK who wrote upon almost everything, and who himself was no mean draughtsman, writes in his treatise on limning:—

"Comparing ancient and modern painters brings the comparison to our own time and country; nor must I be ungratefully unkindful of my own countrymen, who have been and are able to equal the best, if occasion served, as old HILLIARD; and again, "Mr. N. HILLIARD, so much admired by strangers as well as natives for his ingenious limnings." One of these strangers, BLAISE VIGNERE, particularly praises "un peintre Anglois nommé Oeillarde, d'autant plus à émerveiller, que cela se faisoit avec un pinceau fait des poils de la queue d'un escureuil que ne soutient pas comme feroit une plume de corbeau qui est tres ferme." HILLIARD used the pen as well as the pencil, and wrote a treatise on the art of painting, the which, however, has not been published in its entirety, but of which much will be found in BROWN's "Ars Pictoria, 1675," and in SANDERSON's

"Graphici." HILLIARD lived till 1619, having formed a considerable school of painters, the chiefest of whom was ISAAC OLIVER, who painted both in oil and water-colour, and many of his works are in existence, though few bearing his name, excepting his miniatures. JOHN SMUTE, who styled himself "paynter and architecte," published his "Firste and Chief Grounds of Architecture" in 1563, having spent some time in Italy studying both arts; these and his translations of FOSCARINI's "History of Venice" and SCANDERBERG's "Turkish History" prove him to have been a man of parts.

Attributed to JOHN BETTES, a painter of this date mentioned by old writers, was a very good head very much furnished with more recent accessories in this last Winter Exhibition. There was nothing particularly marking it as BETTES' work, but it was a very good English work of the period, nor until we can collect a considerable quantity of these early works will it be safe to assign names to them—excepting for these Winter Exhibitions, when any name will do provided it sounds well, the Academician not being particular. JOHN and THOMAS BETTES both painted at the end of the sixteenth century; and MEERS, in his "Witt's Commonwealth," published in 1598, exclaims: "As Greece had their painters, so have we in England also these—WILLIAM and FRANCIS SEGAR, brethren, THOMAS and JOHN BETTES, LOCKIE, LYNE, PHAKE, PETER COLE, ARNOLD, and some others, whose names bespeak them foreing to our subject and this land." Engravings from the works of several of these painters exist, and diligent search would find out very much of their work.

PHAKE was, indeed, the master of FAITHORNE, our English HOLLAR, and was in command of Basing House during its siege, where so many artists found themselves its defenders. PETER OLIVER, the son of ISAAC, continued his father's art, and his works in miniature are easily obtainable; he, however, painted some historical subjects, and etched from them. Indeed, during the reign of CHARLES I. the arts in England flourished until political troubles uprooted them. BRADSHAW, JAMESON, the Scotch VANDYKE, and whose works often bear VANDYKE's name, DOBSON, whom King CHARLES dubbed "the English TINTORETT," and whose works yet exist in plenty, illustrate native painting at this epoch well.

The troubles of the time suppressed the growing school of English painters, but even in CROMWELL's day, though the arts languished, they did not die; and at the Restoration they shot forth afresh, and painting became a fashionable pursuit.

BAKLOW painted still-life subjects, Sir TOBY MATHEWS drew the INFANTA of SPAIN, Sir JAMES PALMER copied TITIAN's works when he was not gambling, ALEXANDER COOPER painted landscapes. ROBERT STREATER painted everything, and excelled in landscape: "Of our own nation," says SANDERSON, speaking of landscape limning, "I know none more excellent but STREATER, who is indeed a complete master therein;" and ROBERT WHITEHALL, in over laudatory verse anent STREATER's work in the ceiling of the theatre at Oxford, guesses forth the sentiment—

That future ages must confess they owe
To Streater more than Michel Angelo.

ANDERTON, STREATER's pupil, and WILLIAM LIGHTFOOT were also fair landscape painters. GREENHILL painted many a picture attributed to LELY, and some which now pass as VANDYKE's work.

Nor were lady artists wanting; and Mrs. KILLIGREW's works yet are well known to the few who know anything of English art; and the latter half of the seventeenth century saw many men like FLATMAN, who combined art and literature. He was indeed a barrister as well, and

Should Flatman for his client strain the laws,
The painter gives some colour to the clause;
Should critics censure what the poet writ,
The pleader 'quits him at the bar of wit.

though the critics fell foul of him sometimes, and ROCHESTER, the witty and wicked, was rather hard upon

That slow drudge, in swift Pindasic strains,
Flatman, who Cowley imitates with pains,
And rides a faded muse whipt with loose reins.

RICHARD GIBSON, the little dwarf, whose miniature wife we saw painted by VANDYKE in this year's exhibition, was a painter of some merit, and taught Queen ANNE to draw, and was sent to Holland to instruct her sister, the Princess of ORANGE. GIBSON died in 1690, at the age of seventy-five, and his little wife survived him until 1700.

MARY REALE was a remarkably successful female painter under JAMES II., and, indeed, until the advent of WILLIAM III. English painters were much encouraged. KNELLER was of course the favourite of the Dutchmen; but, as this trenches on the eighteenth century, we now leave this subject, having, we think, demonstrated that enough material exists for a plentiful gleaming of English art. If this is done in some future Winter Exhibition, it will at once set people studying this lost period, and the scanty materials we now have for a national art history will be very largely expanded, an interest created in the subject, and much that is now in danger, a danger which increases daily, will be carefully conserved.

The Council of the Senate of the University of Cambridge propose to offer a Grace early next Term for the appointment of a Syndicate to consider the propriety of establishing a Professorship of Mechanism and Engineering.

PROFESSOR BARRY'S LECTURES ON ARCHITECTURE.—II.

DELIVERED AT THE ROYAL ACADEMY, ON MARCH 1.

(Concluded from page 158.)

JULIUS II. now wore the tiara, and was resolved to distinguish and exalt his rule by all possible means.

We have before met with the architect San Gallo in council at Florence. He was now in Rome, and being imbued with admiration for the genius of Michael Angelo, he brought the name of the latter before the Pope, who at once called him to his presence.

The Pope, determined above all things to give lustre to his rule, was also a real lover of art, and wished to assemble round him artists and men of letters. He was the originator of the modern St. Peter's, the paintings in the Sistine Chapel, and the halls of the Vatican, and with his name will ever be connected those of Bramante, Raphael and Michael Angelo. To the latter he at once accorded his especial favour, and entrusted him with a design for a mausoleum, to be erected in his honour in the old basilica of St. Peter's.

I shall take another opportunity to call your attention to this work, which may be said to have embittered the rest of Michael Angelo's life. At present all was sunshine, and the Pope used to visit the great sculptor in his studio, without ceremony, and as Michael Angelo himself said, with the cordiality of a brother. After a time, however, a coldness seems to have arisen, and Michael Angelo was not the man to tolerate a slight from any one, however exalted his station.

An instance of his manner of dealing with such cases had previously occurred in Florence, in respect to the picture of the Holy Family, which Michael Angelo had painted for Agnolo Doni for 70 ducats. When Doni received the picture, he said the price was too much, and forwarded only 40 ducats. The artist, on this, sent a messenger to say that the picture must be at once returned by the bearer, or an increased price of 100 ducats paid for it. Doni then offered the original price of 70 ducats, but was astonished to be told that, in consequence of this insult, he could now only be allowed to retain the picture if he instantly paid 140 ducats, which he was forced unwillingly to do. We may suppose that he did not again attempt to bargain with an artist so resolved to uphold the dignity of his profession, and we may further conclude that such a man as Michael Angelo then was, brought to his transactions with Pope Julius a spirit as proud and lofty as his own.

An outbreak soon occurred, and Michael Angelo took grave offence at a refusal of audience. It has been asserted that Bramante was jealous of another's influence with the Pope, and that he had sought to cool the ardour of his master on the subject of the Mausoleum by suggesting that it was an evil omen for a man to build his own tomb.

The Pope, always impetuous, may have also been irritated by what appeared to him the slow progress of the work. However this may be, Michael Angelo saw in the refusal of audience a studied insult. He exclaimed to the officer who repulsed him, "You may tell the Pope that, should he wish to see me again, he will have to seek me elsewhere."

Waiting for no reply, he rushed from the Vatican, took horse, and by two o'clock on the following morning was at Poggibonsi, on Florentine territory, and beyond the limits of the Papal rule. He had written to the Pope before leaving Rome, and Julius had at once sent messengers to stop his departure, and to bring him to his presence, even by force if necessary.

Michael Angelo's movements were, however, marked by his characteristic energy, and when his pursuers came up with him he was on Florentine ground. He flatly declined to turn back, and went on to Florence, where he was received with open arms. Julius, not accustomed to be foiled, at once sent a brief to the Florentine Government demanding that they should send the fugitive artist back to Rome.

As this was not complied with, other briefs followed, and it became evident to the Florentine rulers that Michael Angelo could only remain at Florence, at the cost of war with the Pope. This was a serious state of things for which they were not prepared, and Pietro Soderini, who was the ruling spirit at Florence, hit on the expedient of sending back Michael Angelo to the Pope as the ambassador of the Florentine Republic, and thus protected from his wrath.

Michael Angelo was at last induced to consent to this arrangement. He had hitherto shown a resolution at least equal to that of the Pope, and had declared that if his countrymen forced him to leave Florence, he would transfer his services to the Sultan, and would fix himself at Constantinople. The new proposal, however, seemed to promise an escape from all difficulties, and on August 21, 1506, his letter of recommendation was made out, and our artist found himself invested with ambassadorial dignity.

Julius was about this time at Bologna, which had just been taken by the Papal troops. Here he was found by the new ambassador, who was soon taken again into favour. The Pope, proud of success, requested Michael Angelo to execute a statue to commemorate his victory. This was to be a bronze statue of the Pope, for the Church of St. Petronio. Michael Angelo at once undertook the task, for his supposed diplomatic duties were evidently nominal, and had already served their purpose.

The character of the Pope peeps out in the history of this statue. The sculptor's design gave the right hand raised, in the attitude of benediction, and it was suggested to place a book in the left hand. The Pope, however, objected, and when asked what he wished to have, said, "A sword. I was never addicted to letters." Nor was he contented with the position of the right hand, until assured that the attitude would do as well for one of menace as for blessing. "Holy father," said the artist, "it menaces the people in case they should prove rebellious." The statue was finished, and placed in its niche; but, unfortunately for art, it was destroyed by popular fury some years afterwards.

We now find Michael Angelo, after a short visit to Florence, returned to Rome, and fully reconciled to his imperious patron. But his absence had not been without its effect. The impatient zeal of Julius had found other objects to pursue, and the mausoleum had already been half-forgotten.

Bramante had a commanding influence at court, and the rebuilding of St. Peter's was in progress under his auspices. Great works were also being carried on at the Vatican, where Raphael was already engaged. Michael Angelo thus found himself in the midst of new faces and new influences; and though restored to the Pope's favour, was conscious of a change in his position.

Julius now cared little for the mausoleum, and surprised Michael Angelo by inviting him to paint in fresco the vaulted ceiling of the Sistine Chapel; so called from its having been built by Sixtus IV. It has been suggested that the Pope was instigated to offer this work to Michael Angelo by the unworthy advice of those who, foreseeing a failure, hoped thereby to sow distrust between the artist and his patron. It is more reasonable, however, to conclude that as Julius must have heard of the famous cartoon of Pisa, and of Michael Angelo's readiness to execute the work in fresco at Florence, he was resolved to obtain from the artist a masterpiece, similar in kind, while greater in degree.

The fiery nature of the Pope brooked no contradiction; and, although Michael Angelo declared that painting was not his profession, and set about the work with unconcealed reluctance, he was forced to submit. Once resolved, he threw his whole soul into the subject; for, whatever this great artist undertook, he did with all his might. When his cartoons were completed, he sought aid from Florence, to assist him in transferring his designs to the building, and one of the first who responded to his summons was Granacci, the friend of his youth.

Several other artists of the day were only too proud to work under Michael Angelo, and came from Florence for the purpose; but Michael Angelo soon found all assistance useless. Genius is incommunicable; he could get no efficient aid from those respectable mediocrities, and felt compelled to efface their work, and dispense with their services. His mode of doing so was characteristic. We have seen how stoutly he could maintain the honour of his profession, how bold and haughty he could be before princes. Towards his friends, however, his manner was full of consideration, and he could not muster courage to tell his coadjutors to leave him. In this difficulty he suddenly shut up the chapel and went away. His friends could find him nowhere, and, guessing what was intended, took the hint, and quietly returned to Florence.

And now Michael Angelo was again at work, untrammelled and absolute. In solitude he toiled, and when at last the gigantic work was finished, he was fully entitled to the proud boast—"Alone I did it."

Difficulties of various kinds presented themselves—difficulties with the scaffolding, difficulties with the colours, difficulties, above all, with the overbearing temper of his patron; but at length one-half of the ceiling was completed, and as the impatience of Julius could no longer be curbed, the scaffolding was removed, and before the dust of its removal was dissipated, the Pope entered the chapel.

Then came the painter's triumph. Envy and detraction were silenced, and Michael Angelo was revealed as a painter of the very highest rank, in addition to his allowed position as the first of sculptors. In after-life, Michael Angelo often complained that his work had been hurried by the impatience of the Pope, who on one occasion had threatened to throw the artist from the scaffold, if it were not at once removed.

Julius, however, had too great an admiration for Michael Angelo for us to receive this anecdote as more than a piece of idle gossip, or pleasantry, and he was soon urging the painter to resume his work, in spite of intrigues attributed to Bramante, to induce him to entrust to Raphael the execution of the remaining half of the ceiling. This suggestion, however, was at once repelled, and Michael Angelo proceeded forthwith to complete his work with such energy that the whole is said to have been finished in the incredibly short period of twenty months.

The chapel was thrown open to the public on All Saints' Day (November 1), 1512, by a service at which the Pope himself attended.

Thus was completed this wonderful achievement, which more than all else has rendered glorious the name of Michael Angelo with undying fame. We see in it the genius of the artist in its highest perfection. Criticism has of course much to say about it, especially with regard to the freedom of treatment of the nude human form. Having regard to the awful character of the subjects, it may be doubted whether it is given to mortals adequately to delineate such dread realities. With this reservation, however, few, I think, can stand in the Sistine Chapel and view the paintings of Michael Angelo unmoved, and without feeling that those awful themes of the Creation, the Fall, the Redemption, and the Judgment of Man are there delineated with a grandeur of design, and sublimity of conception, without a parallel. No wonder if the enthusiastic admirers of the artist have bestowed on their beloved countryman the title of "il Divino."

We have seen that Michael Angelo deemed himself a sculptor rather than a painter; but by this mighty work he has associated his name with the art of the latter rather than with the former, and it is perhaps from his work in the Sistine Chapel that his fame as an artist will be chiefly estimated.

If he had any lingering dissatisfaction with the Pope, all coolness seems to have been now at an end. We may suppose that each had learned to respect the other. The character of Julius, headstrong though it was, did not want a certain imperial grace and dignity, and he appreciated fully the moral courage and honesty of purpose which were ever displayed by Michael Angelo. Few dared to speak to him with the freedom habitual with the latter, and towards the close of his life he relied more and more on Michael Angelo as on a faithful friend.

One instance of successful remonstrance is recorded. The Pope wished Michael Angelo, after the work was completed, to retouch it with gold so as to give greater distinction to the saints delineated. This Michael Angelo was unwilling to do. "Holy Father," said he, "the sainted characters there shown were poor men, they wore no gold." "Without gold," said the Pope, "the work will look poor." "They were not only poor men," the artist rejoined, but "they were also saints who despised riches." The point was not further pressed by Julius, and no additions were made.

Relieved from the pressure which the Sistine Chapel had put upon him,

Michael Angelo now turned his thoughts again to the mausoleum, which was to be proceeded with on a reduced scale. But everything was soon thrown into confusion by the death of Julius, in February, 1513.

The new Pope was Leo X., whose pontificate will ever be memorable for that sale of indulgences which seemed to give the chief impetus to the Reformation. Leo himself seems to have been an easy, careless man, very different in character from his predecessor.

We are principally concerned here with his treatment of Michael Angelo, and it was by him that the skill of the latter as an architect was now to be demonstrated. A member of the Medici family, his thoughts naturally reverted to Florence, and he wished to signalise his reign by some conspicuous work in his native city. He found such a work in the completion of the façade of San Lorenzo, which contained the remains of many of his family. He therefore invited Michael Angelo to prepare a design for a marble façade, and Vasari tells us, applied also to Raphael, Sansovino, and Giuliano San Gallo. The result was a commission to Michael Angelo to carry out his design, which he was unwilling to do, as he wished to be left undisturbed at Rome to finish the mausoleum of his old friend Pope Julius.

Leo was resolute, however, and insisted on obedience; Michael Angelo was, therefore, obliged to submit, and prepared to return to Florence. He was compelled to go to Carrara to superintend personally the quarrying of the marble, and after much waste of precious time, some of the details of the façade arrived in Florence. The work, however, was never completed, and was abandoned before the death of Leo X., in 1521.

Michael Angelo was so discontented with the treatment he had received that for a time he would touch nothing in his work. But Cardinal Medici, who now ruled Florence, appreciated his genius, and ultimately induced him to undertake the addition of a chapel instead of a façade to the church of San Lorenzo. This chapel was to contain tombs of Lorenzo and Giuliano de Medici. Michael Angelo soon produced a design, which was at once accepted, and, as all visitors to Florence are aware, has been carried into effect.

The seated statues of Lorenzo and Giuliano must be reckoned among the sculptor's finest works, and the allegorical figures of Day and Night, Aurora and Twilight, introduced a fashion of allegory in monuments which soon spread over the whole of Europe. It is for sculptors to point out the wonderful skill and the anatomical knowledge exhibited by these works of Michael Angelo's genius, which has mastered the difficulties of place and material; but all can recognise the beauty of the forms, the dignity and the power which are here displayed.

Unfortunately, the chapel was never finished, for in 1534, before its completion, Michael Angelo had left Florence for ever. Had the work been fully achieved in accordance with the views of Michael Angelo, it would have exemplified the truth on which he ever insisted—that architecture, painting, and sculpture must not be looked upon as rivals, but can only be fully appreciated where they are employed in combination, each supplying an essential ingredient to the perfection of the whole.

But before the partial completion of the sacristy of San Lorenzo, important events had occurred which not only interrupted the artistic work of Michael Angelo, but exhibit him to us as one of the leading men in Florence, socially and politically, and make us regard him more than ever as a "King of Men."

The premature death of Raphael, in 1520, was soon followed by that of his patron, Leo X., who was succeeded in the papal chair by Adrian VI. The new Pope had a short reign of eighteen months, and was succeeded by the Cardinal Medici, then ruling at Florence, who took the name of Clement VII.

Pressing forward as Pope the design he had commenced as Cardinal, he urged Michael Angelo to proceed with the work at San Lorenzo, without reference to his engagements respecting the still unfinished mausoleum of Julius.

There had been many difficulties, pecuniary and otherwise, with the latter work, and at Clement's suggestion these were now determined by a scrutiny of accounts, which proved that Michael Angelo's conduct throughout had been worthy of his reputation, and that a large sum of money was due to him from the executors of Julius.

An arrangement was now made, in virtue of which Michael Angelo was at liberty to proceed with the Medici statues, as so strongly desired by the Pope. He thereupon fixed himself at Florence, and was quietly working there when all Italy and Europe were startled by the sack of Rome, in 1527, by the Constable de Bourbon. Ruin, massacre, and pillage ravaged the streets, and Clement was only saved by flight to his Castle of St. Angelo. On the news reaching Florence, the party opposed to the Medici saw their opportunity, and proclaimed a republic.

Clement having been accustomed to look upon Florence as belonging to his family, took great umbrage at its defection, and when he was able to make his peace with his enemies, stipulated for the restoration of the Medici as the rightful lords of Florence.

This meant war with Florence, and in the emergency the citizens turned to Michael Angelo. Their defences were neglected and weak, and he was asked to accept the office of Commissary General of the Fortifications. He had no affection for the Pope; he loved the liberties of his native town; the Medici of the day were only nominally the descendants of his former patron Lorenzo; he therefore accepted the distinction thrust upon him, and soon made his influence apparent.

He devised new works at San Miniato, and visited Ferrara to study its fortifications, which had a great reputation. His energy and activity inspired the citizens with confidence, but on finding that Malatesta Baglioni, a Condottiero captain, was supported by the signory, in spite of his avowed suspicions of treachery, Michael Angelo left Florence in disgust and went to Venice, where he was treated with honour and distinction.

In the meantime, the rulers of Florence had discovered their mistake, and on his receiving from them expressions of apology and regret, coupled with pressing requests for his return, he left Venice, and once more arrived in Florence, where he was joyfully received by the citizens. His suspicions of Malatesta Baglioni were soon justified, for by this man's

treacherous conduct the Imperial and Papal troops were admitted within the works on August 12, 1530, and the siege of Florence was at an end.

Michael Angelo was excepted from the general amnesty which was granted by Clement, and he was obliged to hide for his life. The Pope had no wish, however, to lose his inestimable services at San Lorenzo, and a special order was consequently soon issued that his pardon might be relied on, if he would come forth and resume his labours.

At this time gloom and melancholy oppressed the soul of Michael Angelo. He worked incessantly. His health was bad, and his undaunted spirit broken. He was between fifty and sixty. Age was advancing, and his friends feared he was working himself to death.

Public affairs were in confusion, the liberties of Florence were a thing of the past, and the present ruler, Alessandro de' Medici, brother of the Pope, made no secret of his dislike to Michael Angelo. It was under these discouragements that the great artist worked—a lesson not, perhaps, to be lost on some of us. He had to visit Rome occasionally, but the Pope would not hear of any intermission of his labours at Florence.

It was thus that the weary artist found his task irksome, and progressed with a heavy heart. At length, in September, 1533, Pope Clement died. Michael Angelo at once discontinued the work, and in the following year left Florence never to return to it alive.

The new Pope, Paul III., eagerly sought the services of Michael Angelo, and begged him to proceed with the painting of the "Last Judgment" in the Sistine Chapel, which had been ordered by Clement shortly before his death. With this view, a new agreement was entered into with the Duke of Urbino, as the surviving executor of Pope Julius, with reference to the mausoleum of the latter. The design was now still further reduced to the state in which we now see it in the Church of San Pietro in Vinculi.

While the negotiations were in progress, Michael Angelo received a friendly visit from the Pope in his studio, and the latter completely reconciled the artist to the proposed changes by his kindness and compliments. On seeing the "Moses," the Pope exclaimed, "Surely this one statue would suffice to immortalise Pope Julius."

Michael Angelo now addressed himself to the vast painting of the "Last Judgment," which had been commenced in 1533. It was finished in 1541, in the sixty-eighth year of the great artist's age.

He subsequently painted the Pauline Chapel, at the pressing solicitation of the Pope, who had called the chapel after his own name. Those only who are acquainted with the labour of fresco-painting on a great scale, can appreciate the physical difficulties of such a task; Michael Angelo was upwards of 75 years old when this latter work was finished, and it is believed to be the last production of his pencil.

We have thus traced the life of Michael Angelo to the commencement of the infirmities of old age. His busy, honourable, and arduous life appeared to be near its close; but before this great man was to be lost to the world, he was destined to establish yet further claims on its gratitude. As painter and sculptor he had left imperishable records of his genius. He was now to connect his name with the great monument of modern Rome, for at the end of 1546 he was appointed architect of St. Peter's. At this point let us now leave him, strong in the favour of the Pope, unblemished in character, in the full enjoyment of artistic power, even if bodily enfeebled.

We shall hereafter have to return to him in my next lecture, as an architect, and may then trace the circumstances of his remaining years. We shall find in his architecture the same boldness and power which have marked all his productions. In the meantime you may do worse than ponder over the lessons of devotion to art, industry, high purpose, and integrity, which may be learned from the life of "the divine" Michael Angelo.

THE LATE MR. CHARLES FULLER.

LAST week we briefly mentioned the death of this sculptor, and now append a few particulars of his life.

Charles Francis, youngest son of the late General Francis Fuller, by his wife, Amélie de Peyrac, entered the 14th Foot in 1847, at the age of 17, exchanging not long afterwards into the 12th Lancers. He did not, however, long follow his father's profession, for in the year 1853 he took his friends somewhat by surprise by leaving the army and proceeding to Florence, where he lost no time in placing himself under the late Hiram Powers, the American sculptor. The studio of the ex-cavalry officer became in a short time well known to English visitors at Florence. Among his works the "Castaway" (le Naufragé), exhibited in the Italian Exhibition of 1861 and in the London Exhibition of the following year, was probably that for which he will be best remembered. A young sailor, tossed on a raft, represented at a moment when a strange sail has come into sight, and apparently answered his signal, was an original idea for a sculptor, and one which required the exercise of a gift which has been called "narrative power." His "Rhodope," the Eastern Cinderella, consisting of the undraped figure of a sleeping girl, whose features are moved by some passing dream, while an eagle with arched neck stands at her feet ready to carry away her slipper to the Egyptian potentate, attracted some notice at the time, as did also the "Peri and her Child," exhibited only a few years ago in the Academy. Among his busts, those of Grisi and Mario have been probably most favourably noticed; they were among his earliest works. About five years ago Mr. Fuller visited Constantinople, and was, we believe, the only instance of an artist who, in defiance of the Koran, was allowed to make a statue (an equestrian one) of the Sultan. The stipulation was, if we have been rightly informed, that the statue should not be life-size; a little larger or smaller it might be. Of late years Mr. Fuller has exhibited less, though he has not ceased to produce. The best and most enduring of his works are in the possession of Lord Dudley, including a life-size statue of Lady Dudley in a sitting posture. Mr. Fuller married a niece of Sir William Bagge, of Strudsett Hall, Norfolk.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A SPECIAL general meeting, of members only, was held on Monday evening (Mr. H. Currey, Vice-President, in the chair) to consider recommendations of the Council with regard to the award of the Royal Gold Medal, the Soane Medallion, and other medals and prizes of the Institute for the year 1874-5.

The Royal Gold Medal.

The following recommendation of the Council was confirmed: That the Royal Gold Medal be awarded, subject to Her Majesty's gracious sanction, to Mr. Edmund Sharpe, M.A., Fellow; author of "Architectural Parallels," "The Seven Periods of English Architecture," "The Chronology and Geography of Ancient Egypt," "The Rise and Progress of Decorated Tracery," "Gothic Mouldings," "The Architecture of the Cistercians," &c. &c., in recognition of the works which he has produced tending to promote and facilitate the knowledge of architecture.

Medals and Prizes.

The following recommendations were also confirmed:—That the Soane Medallion (with the sum of 50*l.* under the usual conditions) be awarded to Mr. W. Hilton Nash, 5 Adelaide Place, London Bridge, the author of the drawings distinguished by the motto "Soane." Subject of design—a London residence.

That in the same competition the Institute medal be awarded to Mr. Wm. Scott, 43 Myddelton Square, the author of the drawings distinguished by the motto "Crux mea Lux."

That in the same competition a medal of merit be awarded to Mr. A. T. Taylor, 16 Oakley Road, Southgate Road, the author of the drawings distinguished by the device of a triangle within a circle.

And that in the same competition a certificate of honourable mention be awarded to Mr. R. J. Haines, 6 Beaumont Street, Oxford, the author of the drawings submitted under the motto "Urbanus."

That the Institute silver medal, with 5*l.* 5*s.*, be awarded to Mr. James Crocker, 8 Richmond Terrace, St. David's, Exeter, the author of the measured drawings distinguished by the motto, "Semper Fidelia." Building illustrated—Exeter Guildhall.

That in the same competition the Institute silver medal be awarded to Mr. J. T. Hennessey, 84 Briggate, Leeds, the author of the drawings distinguished by the motto, "Student." Building illustrated—Adel Church, Yorkshire.

That in the same competition a medal of merit be awarded to Mr. James Neale, 56 Wigmore Street, Cavendish Square, the author of the drawings bearing the motto, "Weorc." Building illustrated—St. Mary's, Madley.

And that in the same competition a certificate of honourable mention be awarded to each of the authors of the drawings submitted, illustrating St. Mary's, Bilton, Gloucester, under the motto, "Labor omnia vincit" (Mr. H. R. Perry, 9 Seymour Street, Bath); and the drawings, illustrating Dunblane Cathedral, submitted under the device of a cross within a circle (Mr. Jas. M. MacLaren, 12 Sloane Terrace, S.W.).

No essays were submitted in competition for the Essay Prize, and the Council, on the Report of the Medals and Prizes Committee, were unable this year to recommend the award of the Student's Prize.

At the close of the special general meeting it had been arranged that there should be an ordinary general meeting, when Mr. C. H. Driver, Fellow, would read a Paper on "Iron as a Constructive Material;" but having regard to the time occupied in the disposal of the special business, it was resolved that the reading of Mr. Driver's Paper be postponed, and the meeting was adjourned.

The following is a list of the drawings submitted in competition for the prizes:

SOANE MEDALLION.

Subject.		Motto or Device.
Design for a London Residence	(8 drawings)	"Crux mea lux."
Ditto	(8 drawings)	"Noûs."
Ditto	(9 drawings)	"Soane."
Ditto	(8 drawings)	"Chacun à son gout."
Ditto	(7 drawings)	"No pains no gains."
Ditto	(8 drawings)	"Wanted a client."
Ditto	(8 drawings)	"Specs."
Ditto	(9 drawings)	"Breadth."
Ditto	(7 drawings)	"Forto."
Ditto	(8 drawings)	"January."
Ditto	(8 drawings)	"Urbanus."
Ditto	(8 drawings)	"Hope" in a circle.
Ditto	(11 drawings)	Triangle within a circle.

INSTITUTE SILVER MEDAL AND 5*l.* 5*s.*

(For Measured Drawings.)

St. Mary's, Madley, Hereford	(9 sheets of drawings)	"Weorc."
St. Mary, Bilton, Gloucester	(6 do. do.)	"Labor omnia vincit."
Dunblane Cathedral	(6 do. do.)	Cross within circle.
St. Mary's, Cambridge	(6 do. do.)	"Esperance."
St. John's, Adel, Yorkshire	(6 do. do.)	"Lacit amor patriæ."
Ely Cathedral	(14 do. do.)	"Z."
St. Mary's, Yorkshire	(5 do. do.)	"Palmar qui meruit ferat."
Parish Church, Silvertown	(5 do. do.)	"Excelsior."
St. John's, Adel, Yorkshire	(6 do. do.)	"Student."
Exeter Guildhall	(4 do. do.)	"Semper Fidelia."

STUDENT'S BOOK PRIZE.

Design for Drawing-room Chimney Piece . (1 drawing) . "Classic."

ILLUSTRATIONS.

THE MOFFAT THEOLOGICAL INSTITUTION AND TRAINING SCHOOL FOR NATIVE MINISTERS, KURUMAN.

THE accompanying illustration of the Moffat Theological Institution and Training School for Native Ministers, Kuruman, South Africa, now in course of erection by the London Missionary Society, gives a general elevation of the principal front and an end elevation, sections through each of the several parts, and a ground-plan of the whole including detached buildings. Mr. E. C. ROBINS, is Architect.

The design embraces the college and its appurtenances, forming the main building, quarters for ten married students, and two houses for master and tutor respectively, arranged in the form of a quadrangle, but built in separate blocks connected by an open verandah which entirely surrounds all the buildings.

The play-ground occupies the centre of the quadrangle. The stables, stores, and slaughter-house are to be situated at a little distance from the buildings; also the earth-closets, plans of which are given.

It has been designed to be erected piecemeal without at any time presenting an unfinished appearance, and is a single storey in height, excepting in the case of the masters' residences, which have an attic storey in addition.

The roof is thatched; the windows all furnished with louvred shutters; cross ventilation obtainable everywhere by opposite windows, and shade and shelter from the verandah. The posts and rails of verandah are to be of young trees and branches put together with the bark on, and let into stone bases. The walls to be of limestone, 2 feet thick to withstand the heavy storms of wind and hail. A public hall, 30 feet by 20 feet, occupies the centre of the main building, with a school-room and two class-rooms on either side of it. At right angles to the main building and forming wings are the kitchen, offices and stores, and the dormitory and lavatory 60 feet long and 15 feet in width and height.

The windows at the back descend to the floor and open to the verandah, which is the corridor of communication between the several parts. The married students' block consists of a series of semi-detached two-roomed cottages. The master's and tutor's houses are similar, and contain dining and drawing-rooms, kitchen, scullery and store-closet, and two bed-rooms on the ground-floor, and five attic bed-rooms.

In the centre of each house is a hall 16 feet square, which rises to the top of the building (see section). On one side of this hall is the entrance vestibule, opposite to which is the staircase to the gallery surrounding the hall at the level of the attics, with which it forms the means of communication. This central hall is lit and ventilated by windows above the attic roofs.

The situation of the building will be on the eastern side of the fertile vale, on the western side of which is the church and the residence of the great missionary, whose self-sacrificing labours for nearly two generations the building is intended to commemorate.

BOARD SCHOOLS, CAISTER, GREAT YARMOUTH.

THESE schools, having been approved of by the Board and by the Education Department, are about to be carried out. Accommodation is provided for 230 children. The probable cost, including master's house and boundary walls, will be about 1,300*l*. The walling material will be red brick, with stone and moulded brick for dressings. The architect is Mr. J. T. BOTTLE.

BOARD SCHOOL, KEYSON, BEDFORDSHIRE.

THIS school is now completed, and affords accommodation for about 140 children. A small infant school is proposed in another part of the village. The amount of the contract (which has not been exceeded) was 1,130*l*. including master's house and offices. The walls are of white brick, and the roofs are covered with local plain tiles. The works have been satisfactorily carried out by Mr. C. LORD, builder, Huntingdon; the architect is also Mr. J. T. BOTTLE.

STABLE OFFICES AT PENDLEY MANOR, TRING.

THESE stable offices are being carried out for Mr. J. G. WILLIAMS with Cowley stocks faced with a red local brick of good colour, with dressings of Bath stone. The roofs will be tiled with Broseley tiles. The woodwork, in half-timbering with bargeboards, doors, &c., will be in pitch pine.

The iron fittings, including sashes, &c., will be supplied and put up by the St. Pancras Iron Company, who will also lay the stables with their chamfered adamantine clinkers.

In scheming the plan particular attention has been paid to drainage and ventilation, and the newest improvements have been adopted throughout.

The estimate for the whole, including iron fittings, is 4,420*l*. The work is being carried out from designs and under the superintendence of Mr. WALTER F. LYON, architect, of 50 Lincoln's Inn Fields, W.C.

COMPETITIONS.

UNDER this heading we propose to give each week, or as often as may be necessary, a brief account of the *conditions* of such competitions as may at the time be open to the profession. In doing so we shall point out what conditions have been framed in accordance or at variance with the rules agreed upon at the General Conference of 1872; beyond this it will not be our province to go, our object being to help the reader to ascertain (more than an advertisement can) whether the *conditions* of a particular competition are likely to meet with his views, rather than to furnish a reprint of such details of requirements, &c., as he must, after all, obtain for himself. The numbers refer to the corresponding paragraphs in the General Conference Rules above mentioned.

Lincoln County Hospital.

This is a competition which is likely to attract not a few architects, on account of the large amount proposed to be expended; but such gentlemen will do well to pause before they commit themselves, their time, and money. £20,000 is to be laid out in the erection of a hospital to contain 110 beds, and another 1,000*l*. is to be added for a chapel. But there is no assessor promised, and no premium.

8. "The committee will not consider themselves obliged to accept any of the submitted plans, nor will any payment be made in respect of those which are rejected." "With regard to any such plan as may be accepted, the committee reserve to themselves the power of directing the architect to introduce any modification, &c." "The due remuneration of their architect will be *matter of arrangement* between the architect and the committee."

Time, June 10.

ARCHITECTS' BENEVOLENT SOCIETY.

ON Wednesday, March 10, at the rooms of the Royal Institute of British Architects, a special general meeting of the subscribers to this society was held, to consider certain amendments in the bye-laws, chiefly relating to the disposal of a portion of the society's accumulated stock, which may hereafter stand in railway debentures, under the direction of the Council, instead of as heretofore, only in the funds; several changes, too, were effected in those bye-laws regulating the distribution of relief to applicants, whereby it is hoped some little trouble will be saved to them, while at the same time ample security will be afforded that the money entrusted to the disposal of the Council should go to proper persons.

After the business of the special general meeting was concluded the annual meeting of the subscribers took place, when the President's report was read by the Chairman and adopted unanimously. It stated that the society was making advancement in income and numerical strength, almost in fact progressing *pari passu* with its calls; the audited accounts for the past twelve months were also laid before the meeting, showing that a sum of 277*l*. had been distributed amongst the needy members of the profession, their widows and orphans; in 1873 235*l*. was given away in a similar manner, and in 1872 190*l*.

The President, Mr. Sydney Smirke, R.A., being unavoidably absent, both the meetings were ably presided over by Mr. George J. J. Mair, F.S.A., the treasurer. At the close of the proceedings the honorary secretary announced a list of recent donations amounting to 36*l*. 8*s*.

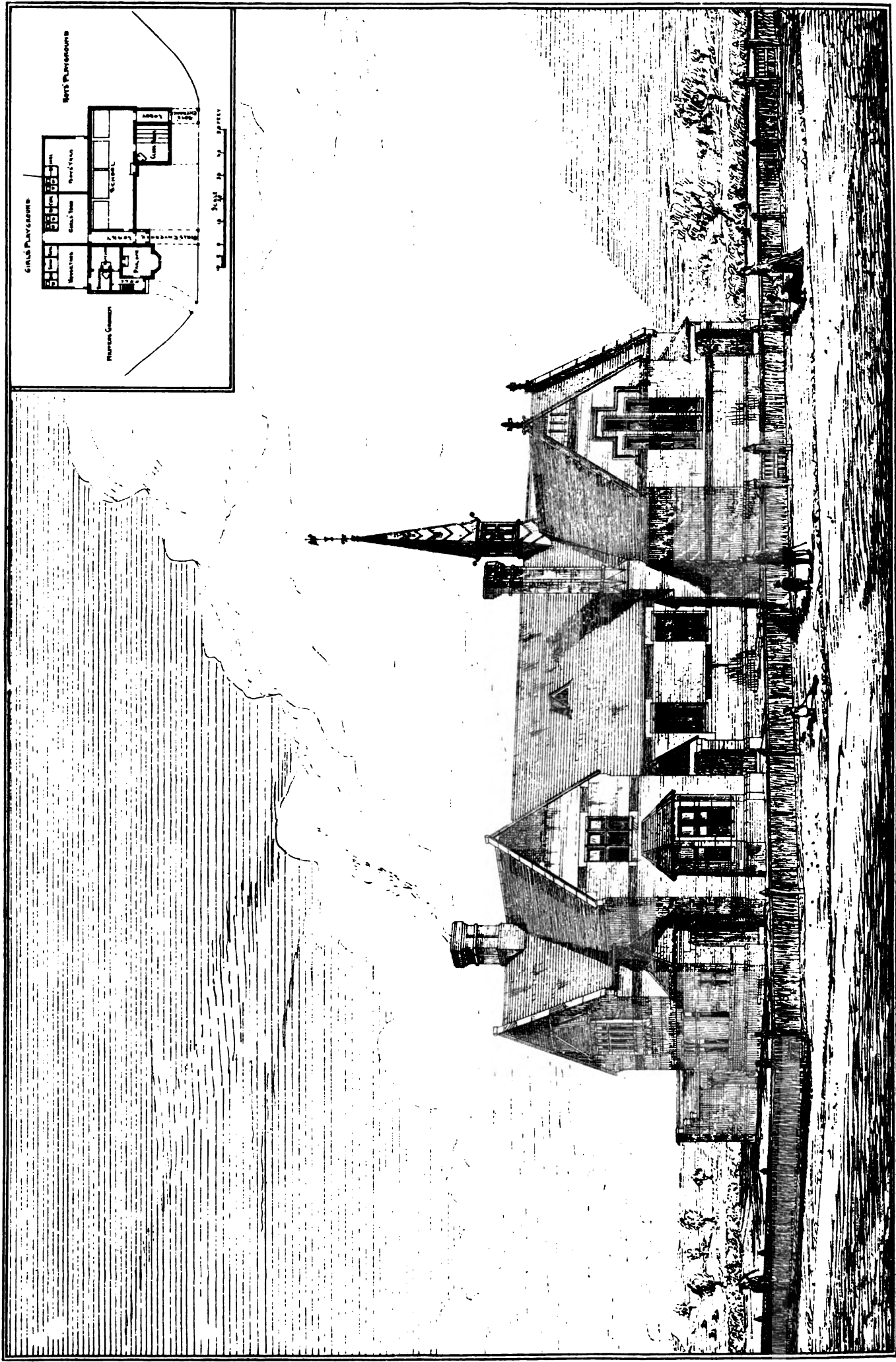
CHURCH EXTENSION.

THE usual monthly meeting of the Incorporated Society for Promoting the Enlargement, Building, and Repairing of Churches and Chapels was held on Monday last at the Society's house, 7 Whitehall, S.W., the Rev. John Evans in the chair. There were also present the Revs. A. Cazenove, and George Miller, Baron Dimsdale, Messrs. John Boodle, George Cowburn, J. F. France, A. J. C. Lawrie, E. Pepys, William Rivington, W. E. M. Tomlinson, and Rev. George Ainslie, M.A., Secretary.

Grants of money were made in aid of the following objects, viz.:—Building new churches at Earlestown, in the parish of Newton-in-Makerfield, Lancashire; and Epsom, Christ Church, Surrey. Rebuilding the churches at Hognaston, near Ashbourne, Derby; Langton-Matavers, near Waraham, Dorset; and Therfield, near Royston, Herts. Enlarging or otherwise increasing the accommodation in the churches at Aldington, near Hythe, Kent; Brewardine, Hereford; Chippenham, St. Andrew, Wilts; Corscombe, near Dorchester; South Hackney, Christ Church, Middlesex; Upavon, near Marlborough, Wilts; Fordham, near Soham, Cambridge; Little Wymondley, near Stevenage, Herts; and Ubley, near Bristol. Under urgent circumstances, the grants formerly made towards building the church at Brandon, in the parish of Brancepeth, Durham; and towards restoring the church at Clymping, Sussex, were each increased. Grants were also made from the special School-Church and Mission House Fund towards building school or mission churches at Capel Curig, near Bangor; Dunkirk, near Chesterton, Stafford; and Hill-in-Millom, near Broughton-in-Furness.

This meeting was the last in the Society's financial year, and grants amounting to 11,435*l*. have been made in it towards the erection of 31 new churches (24 of which are entirely free and unappropriated), the rebuilding of 15, and the enlarging or otherwise increasing the accommodation of 101 existing churches. The carrying out of the above works called forth from the promoters of them the sum of 383,606*l*. The committee have also granted 680*l*. towards building 24 school or mission churches, but in every case there has been much regret felt at the smallness of the sum voted through the inadequacy of the funds at the Society's disposal.

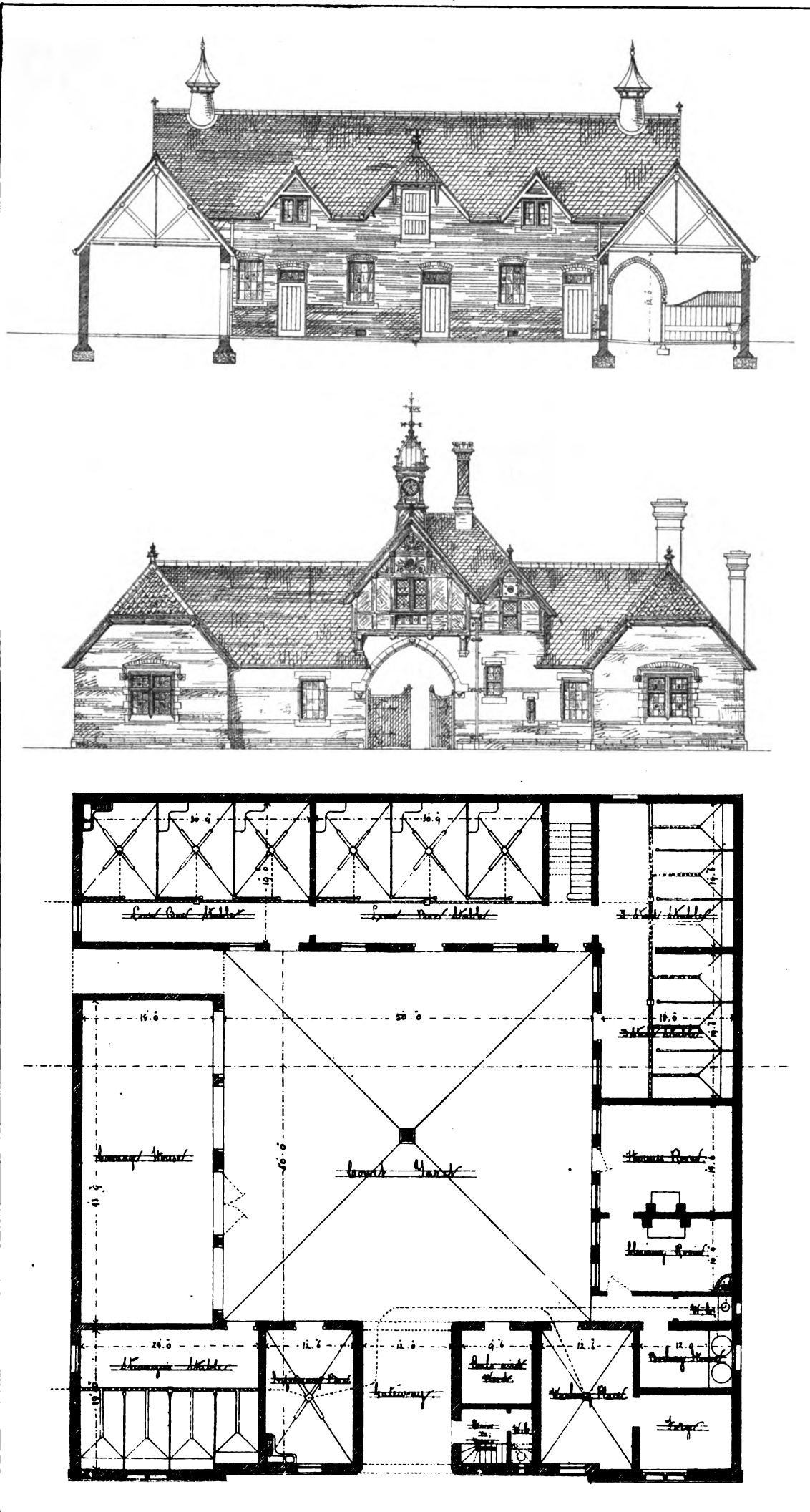




BOARD SCHOOLS, KEYSOE, BEDFORDSHIRE.
J. T. BOTTLE, ARCHITECT

Designed by J. T. Bottle & Co. London. W.C.





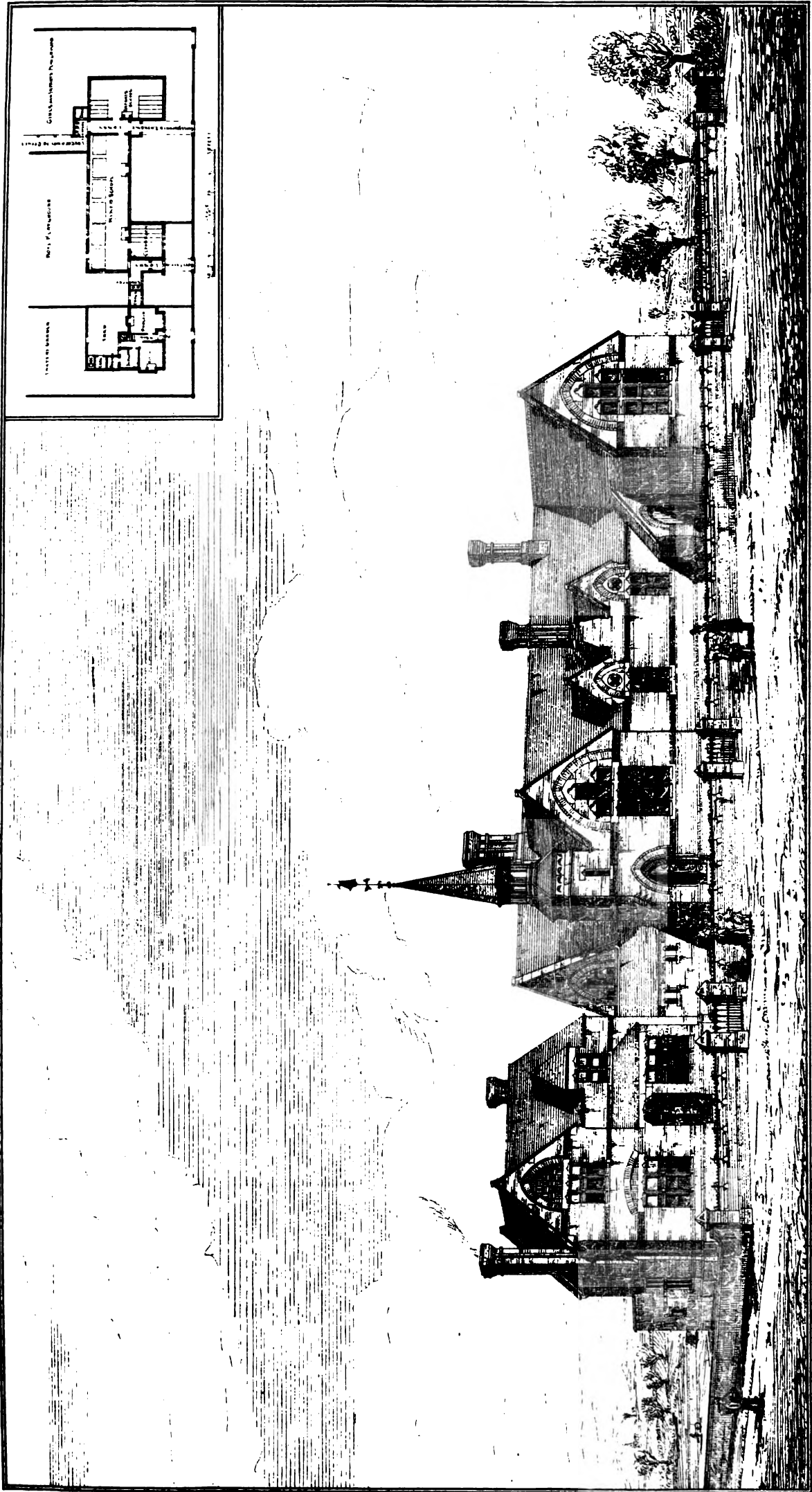
STABLE OFFICES, PENDLEY MANOR, TRINC.

W F LYON ARCHITECT

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BOARD SCHOOLS, CAISTER, GREAT YARMOUTH.
J. T. BOTTLE, ARCHITECT.



ORNAMENTAL DESIGN.

AT the last general meeting of the Architectural Association of Ireland, the following address on this subject was delivered by Mr. Thomas H. Longfield :—

Gentlemen,—Since I last had the honour of addressing you, the name of one who has done more to popularise the art of ornamental design than any of his predecessors, through the multitude and variety of his works, has become historic—I allude to the great Owen Jones; after a life full of activity and usefulness, he has paid the common debt of humanity. His great work, "The Grammar of Ornament," will ever be a text-book for the art-student; in it he gathered together specimens of all the perfected styles of ornament, on which he, and other distinguished collaborators, wrote most valuable and exhaustive treatises. On the subject of Egyptian and Moorish ornament he stands pre-eminent. No one has brought to our view the glories of Thebes and the rich halls of the Alhambra in the same manner as he has done. His most beautiful Egyptian and Moorish Courts in the Crystal Palace, Sydenham, were indeed stupendous undertakings; the remembrance of them will always be to me a source of great pleasure. The brilliant colouring of the former and the delicate intricacies of the latter must have greatly impressed his mind, so we cannot wonder that in his own ornamental creations he combined these principles. In the designing of ornament Mr. Jones was wonderfully gifted, as the very great number of his published works, so beautifully produced in chromolithography by the Messrs. Day, attest. We may enumerate among these works "The Victoria Psalter," "Paradise and the Peri," "Gray's Elegy," &c. These works all show the great versatility of his genius in ornamental design.

Of the utility of illuminated books in the present day, I am inclined to form rather an unfavourable estimate. Before the introduction, and in the infancy of printing, when MSS. were universal, or nearly so, it was natural that great pains would be spent on their calligraphy and ornamentation, and that, in making copies of the gospels or other works, the scribe would delight to revel in glorious initial letters—sometimes, as in the Book of Durham, covering a whole page with one, in which would be introduced pictures relative to the chapter following it, and go round the pages with floriated borders of most exquisite design. The beautiful decorations lavished on copies of the gospels arose doubtless from the intensely religious feeling of the scribe, in whose imagination it was impossible to expend too much time in the decoration of so precious a gem. In the general literature of those ages books were produced but for the rich, and great length of time was occupied in their production. The beautiful choir-books of Siena, which I have had the pleasure of seeing, are glorious specimens of the art of illumination. There is a considerable number of them, and the variation and ingenuity of the designs are marvellous. Our own "Book of Kells," which, however, I have never had an opportunity of inspecting, and which, I suppose, since its secret trip to London, will be more difficult of access than formerly, shows the great perfection attained in the art by the inhabitants of this country in former days. Miss Stokes has beautifully reproduced some of its initial letters in Dr. Ferguson's poem, "The Cromlech on Howth." The branch most specially suited for the employment of illumination in the present day is that of complimentary addresses, congratulations, and such like. It does not matter if these are sometimes a little illegible; it leaves more to the imagination if they are so; but I do think that "illuminating" texts or poems in old English characters, with variously-coloured letters, instead of throwing any light on the subject, has a tendency to obscure the meaning of the writer. Have a fine initial if you like, but do let the remainder be written in plain, intelligible character, that will immediately appeal to the senses of the reader, instead of his having, in the first instance, to translate them to his mind. There is a saying, such a thing ought to be written in letters of gold. Would we be inclined to mind it one whit more if it were?

Ornamental designs may very properly be divided into those founded partly or entirely on geometrical design contrasted with those that in their treatment are not bound by any geometrical rule; some founded entirely on conventional principles, others that exactly reproduce the forms of nature by imitation; some in which only leaf forms are introduced, others in which the human and animal forms play a prominent part; some that in their design have distinct reference to polytheism, others that cannot fail to be identified with the introduction of Christianity. While in ornamental design the greatest liberty of arrangement may be indulged in, yet such contrasts are conventional and natural forms or Pagan and Christian symbols in the same ornament or in juxtaposition is always offensive to the correct taste.

In making any ornamental design it is always necessary for us to keep closely in mind the material in which our design is to be executed and the position it is to occupy relative to the eye; the ornamental designs that might be suitable enough for stone are not those that would be appropriate for iron; as also those we design for either material when seen at a distance should vary greatly from those that court a closer inspection; of this we see wonderful examples in some of the great cathedrals; the figure and the foliage that looks from below to be of the most delicate handling, when we ascend near them they seem coarse and unfinished; in this lies the perfection of sculpture—suitability to position; but Gothic art is not without tricks in the present day, and the pencil, I think, often plays a prominent part in aiding the depth of the sculpture inside buildings when the stone is of a light colour, and which gives the carving a most unnatural sharpness. These are not Pugin's "Principles," or those on which Solomon built the temple of old. Carve as rudely as you will at a distance from the eye, as long as you can produce your effect without resorting to shame—all shade in carving should arise from direct contrast of colour or depth of carving. We may say with Shakspeare,—

It is not, nor it cannot, come to good,

and should in no case be permitted.

Ornamental Designs for Hangings.—It is not a good principle to make them too crowded so that when executed we have to take the material up and look closely at it to see its beauties, or how closely it resembles an engraving. This elaboration of detail and ignorance of scale is often labour lost, the pattern should be discernible to the observer without close inspection. Too many colours often judiciously blended will neutralise each other and have a most insignificant result. This kind of colouring often betrays weakness. The same remark would apply to the method now usually adopted in the colouring of cornices in a dozen different hues—the result is, that the cornice often looks nothing, but you are told it is right on principle. These rules of contrasts and gradations of tone savour greatly of eclecticism and are often carried a great deal too far—arbitrary rules being enunciated on matters that admit of endless and equally satisfactory combinations of treatment. The principle of decorating hangings in horizontal lines seems to me to be bad, or any pattern founded on this principle, as serving to neutralise the hanging of the drapery and draw away the eye from its natural folds. The pattern should run from top to bottom or in diamonds. The Fleur-de-lis pattern will, I think, always be a favourite, it is so symmetrical and quiet for large surfaces; some of the old Italian patterns, such as we see in the works of the Venetian school of painting, are very effective and rich. In the Gothic style drapery is often conventionalised to form a decoration for the lower part of walls, when it sometimes looks very well; the folds of the drapery should be made out in hard decided lines and diaper patterns wrought over it. The plates that you will find in the Society of Antiquarians' publications on the subject of the decoration of old St. Stephen's Chapel, Westminster, the crypt of which only now remains—restored by Mr. Butterfield—will show you very well how the old Goths conventionalised drapery. This chapel was coeval with the Sainte Chapelle at Paris, the decorations of which were, I suspect, of a somewhat similar character.

Chinese and Japanese Ornament.—In these schools of ornament conventionalism is almost universal. The creations of the latter school are generally very pleasing and the contrasts of colour of a very effective kind. Some of the Japanese enamels are very effective and ingenious; I have seen one with a green ground over which delicate leaves twined of red, blue, drab, and yellow—each leaf surrounded by a brass wire soldered on to the branch of brass wire—here and there over the vase there was a conventional flower with black and pink introduced. This manufacture must be a very tedious one, and the finish of the specimen I allude to was exquisite and the contrast of colour very pleasing. This manufacture would have some similarity to the ornaments that used to be made by ladies a good many years ago with pieces of card curled up and let into wood had the interstices been filled up with some coloured material. The manner in which the Japanese conventionalised bunches of flowers on these enamels by intersecting circles is very clever, and varieties of foliage are also well shown. The leaf principle in the Chinese pattern is very well carried out, and the pattern, with the frets in the centre, is very ingeniously inserted to divide the graceful curved ornaments. The idea of the centre ornament would, I say, be suggested by flowers growing on a lattice.

Ornamental Design Applied to Ironwork.—These must, of course, vary as the work is to be wrought or cast, though I have seen many wrought iron patterns executed in cast work, and if in positions where not liable to get a knock, may stand well. The effect is very nearly the same when at a distance, but if at all near the eye, the falling off is very perceptible. The old wrought ironwork supplies us with a great variety of beautiful forms, and it would be a great pity if we were not to take advantage of them.

Moorish Systems of Ornament.—These are generally founded on a geometrical basis, producing many varieties by interlacing these forms with foliage, or by the introduction of their written character; the effect of these ornaments was generally rich, though quiet, and there never was any vulgarity or garishness about them. There was a delightful all-overishness, if I may be allowed to use such an expression. I mean that the eye does not fasten on one particular part of their ornamental design more than another. The Moorish caps of the baths at Gerona are very good examples of their art—you will find them very beautifully illustrated in the first volume of Laborde's "Voyage Pittoresque en Espagne." Some of the Moorish wall tiles are of beautiful design, especially the interlaced geometric patterns which are very characteristic of this style—one, full of repose and unequalled richness—its realisation, as in the Alhambra, is almost fairy-like. We are generally apt to associate it with the Arabian Nights' entertainments, having been generally largely availed of by artists when illustrating that work.

Ornaments founded entirely on Geometrical Designs.—These are to be found in numerous styles. The fret is to be found almost everywhere. The Chinese understood its properties very well, and used it largely as a relief to other ornaments in the diagonal arrangement in classical examples, it is always found in the square direction. The early Italian Mosaic work also evidences the great variety obtainable by geometrical forms, as also the very agreeable manner in which colour can be disposed on them. You will see this exemplified on the tomb of King Henry III. at Westminster, which is as fine a specimen of this kind of work as you can see. The Roman Basilicas are richly decorated with it.

The Ornamental Design of Ceilings.—I fear that much progress has not been made in this art, for we see nothing done as fine now as there was in Dublin a hundred years ago. For these I know we are indebted to the settlement here of a band of Italian workmen, one of whom, Bossi, executed the beautiful chimney-pieces, inlaid with coloured cements, that are often to be met with in the old houses here. The ceiling of the chapel of the Lying-in Hospital, Rutland square, is a very fine piece of plasterwork; but we must recollect that this and such others were the work of artists trained to a correct knowledge of the human figure, and able to model with great facility. Such work cannot be executed now save at immense cost, for ordinary workmen are not able to do them. I have seen some of the ceilings of this period with delicate surface decoration, ovals, wreaths, and fan-like ornaments of an exceedingly chaste and elegant

nature; these, when the relief is gilt, have a most charming effect. The works on ornamental design, published about this time by Michael Angelo Pergolesi—so called, I have no doubt, from his being the son of an artist, as in the case of another distinguished name that appears on the rôle of contemporaneous art; Pergolesi's ornaments were generally of a very refined order—the subjects he introduced into them were the designs of Cipriani, engraved by Bartolozzi, and which in themselves are very beautiful. These ornaments were well suited for the painted furniture then much used, and of which we sometimes see very nice examples here. This Michael Angelo's designs were as delicate as the great Buonarroti's were massive and bold, and were, I am sure, largely availed of by the non-inventive art workmen of the day; there is a great similarity of style running through all Pergolesi's works; his scrolls are very beautiful. The ceilings in the Vatican, designed by Raphael, are very elegant; divided into geometrical coffers, filled with paintings, the borders composed of rich arabesques. How very much more satisfactory such ceilings are than that of the Sistine Chapel, by Michael Angelo; here we have architecture and figures painted, masterpieces of figure-painting in the most impossible position. Michael Angelo, however, was such a giant in art that we ought to be most thankful for every stroke of his great pencil; but we may be permitted to take exception to the principle of this ceiling; my feelings on beholding it were, I must say, mingled with regret that I was not able to see it as it ought to be seen. Michael Angelo always used the figure whenever he could employ it in his ornamental designs; he knew he understood it really well both in delineation and modelling, and it is in this his greatest power consisted. Let me call your attention to the Tomb of the Medici at Florence; how very beautiful these figures are, but how bad in principle is it to have figures reclining on a curved pediment; they give one a most uncomfortable sensation of the possibility of their slipping off; I think something could have been introduced that would have conveyed an idea that this was impossible. The ceiling in the Town Hall of Perugia, by the great Pietro, is of a style very well suited for such decoration—light and elegant, without being in the slightest degree overpowering: I have had the advantage of being often able to study a very beautiful copy of this—a work of the greatest delicacy and beauty: Raphael is said to have assisted in painting this ceiling. The decoration of the Temple Church vaulting, by Mr. Willement, has always struck me as very satisfactory. The church of St. Jacques, at Liege, is somewhat similarly decorated. The Baths at Pompeii supply some good "motifs" for ceiling decoration.

I would call your attention now to the revival of a late period of Italian ornament of a very heavy description, the culminating extravagance of which we may see in the Venetian books of the seventeenth century, in the borders, tiles, and cul-de-lampes. These ornaments are formed of an incoherent jumbling of all sorts of "property" into the same design. They were the invention of a school great in the perfection they had attained in the delineation of human form; but this can be carried to too great a length.

In their emblematical ornaments the Italians very often mingled amorini. They formed a very pleasing decoration. Albano was very clever in designing these. I show you a copy of one of his, the original of which was kindly lent me by its owner, Dr. Frazer. It represents "Music." One acts as a conductor; the others hold music-books, and play different musical instruments; while another dances. These fine chubby little fellows always look well in ornaments. Italian painters have always excelled in the composition of such groups as these.

In the ornamental designs furnished by those who make Gothic forms their exclusive study, if they introduce figures, they are generally of a meagre mediæval aspect, with long hair and angular limbs; the men in tunics and girdles, the women as if they were drawn out of pumps, in fact—conventional men and women. They even go so far as to introduce such figures as accompaniments to modern buildings. This is all very well in such a work as the "Dictionnaire Raisonné," where the figures suit the date of the constructions described; but to insert them as accompaniments to modern works is intolerable, and shows a servility of copyism.

It is, doubtless, true that this mediæval costume is very easily designed—and it is not at all necessary that it should be true—and it covers an amount of anatomical difficulties. Any critic of the modern stained glass will see this, the figures of which are often ill drawn and badly draped; however, brilliancy and proper distribution of colour is the great end to be achieved here. Diapered grounds to figured medallions have a very good effect; the plan of filling a window almost entirely with a subject, sometimes letting it run through several lights, is not a good one. The object to be obtained by stained glass is a dim religious light, not a transparent picture, and the diapered ground has this effect, and serves as a surface of repose in the pictures. In our own city, at St. Patrick's Cathedral, we have an example of these two methods opposite each other in the transepts, and we can see at a glance which is the more satisfactory, though to my mind I would prefer less picture and more diapering in the south transept. Unity of style in stained glass in a building is as essential as unity of architectural details. As an example of this, I would appeal to the church of St. Germain l'Auxerrois at Paris, in which, if I remember right, the stained glass is nearly all in the same style; but to allow stained glass to be inserted of the most opposite designs, one rich and brilliant, another cold and sickly, is a wrong principle, and is reviving in the glass as disagreeable an effect as was formerly due to promiscuously scattering over the walls monuments of hideous design in black and white marble, of a description of which Westminster Abbey can boast not a few. I would by no means suggest having the same ornamental designs carried out in each window, but that unity of style and colouring should be observed, and figures in windows should not differ in scale at the same level. The figures in clerestory windows should of course be much larger than those in aisle windows. It is equally faulty to have the subjects too small as too large.

I must now conclude the few remarks that I was desirous of making to you on the subject of ornamental design, and I fear the routes I have taken you in this and my former address have been very circuitous and rambling; but I do not see how they could fail to be so, considering the great extent

of the subject. Now-a-days, when there is such diversity of taste abroad, it is well for us to try and see the beauties of every style, and to avoid their extravagancies, as, for instance, the barbarities that were perpetrated in the Louis Quatorze, which was undoubtedly a meretricious and bad one. It is human nature to hunt up fresh fields of ornament. Fashions must change in art as well as everything else, though we may thank Providence they do not change as often as fashions in dress. It is most amusing to turn over the pages of an old *Illustrated London News* and see, within our memories, what strange ideas have obtained on that subject. There was a time when Pugin's Gothic was all that could be desired; it is now considered somewhat passé—in fact, it was wearisome and much too expensive. Does the river front of the Westminster Palace look enough for what it cost? Is it not wearying in its heraldry and most monotonous? I prefer the effect of our own old Parliament House, and I dare say if we could look into the distant future, its columns will be inspected as an antiquity by the New Zealander when the Westminster Palace shall have crumbled to decay.

ARCHITECTURAL MUSEUM.

MR. F. A. SKIDMORE delivered a lecture on Saturday afternoon last at the Architectural Museum, Tufton Street, Dean's Yard, Westminster, "On the Use of Gold in Ancient Architectural Enrichment, and its Influence on Conventional Forms," under the presidency of Professor T. Hayter Lewis.

Mr. Skidmore commenced by saying that there had been expended for many years past vast sums of money on architecture, and architects took credit for accomplishing great things, when they were simply working on the past in copying what they found in existence; but they should be constructors in the true sense of the term, or else go further back, and reproduce what was done by workers in gold. It had been affirmed by Chambers and others that originally there was a very large quantity of gold used in the adornment of houses of the earliest period; and history recorded the use of gold and silver in large quantities in the temples and buildings of Assyria and Greece, and especially in the Temple of Solomon at Jerusalem. In those times it was not at all uncommon to use even hundredweights of gold in the adornment of a temple, at which time goldsmiths occupied a very high position, different from the subordinate position they now hold, as simply manufacturers of jewellery. Mr. Fergusson had told them that the temples were originally of wood, on which naturally the precious metals, possessed in such abundance, would be placed as enrichments. The subsequent stone structure gave evidence of that origin. This being the case, it was a fair deduction that the richer portions would also be represented in stone. As an illustration of this view, Mr. Skidmore produced examples, showing the constructive necessities of metallic treatment, and traced the identity of these with the stone carvings of different periods, stating that the natural forms of the Decorated and Perpendicular periods in metal received their conventional treatment from the hammer of the goldsmith, and were again repeated in stone carvings. The lecturer went on to urge that this eternal copying was a great mistake, and he maintained that the architecture of the present day was a failure, simply because it resolved itself, with architects, into a question of various old styles. They showed nothing of the constructiveness which science taught was necessary for true progress, and hence was what he regarded as a failure; and in every form that they saw around them there was not one in which they could not trace the influence of the skill of the ancient goldsmith. Forms which to them conveyed no meaning spoke in those ages of the wealth offered to the deity, and was indeed a living art, for men gave largely out of their own great wealth for the ornamentation of buildings. He contended that it was no slight gain to architecture to be able to unravel the motives which dictated each form, and that, with such knowledge, an architecture of the future became a possibility. If they were determined to rely upon and worship the past, they should go as far back as the goldsmith's period, and then they would understand why many of these stone representations took a particular shape. If they would reproduce the past, they should do so honestly and fairly; but they should be above worshipping forms without knowing their motive. There was no legitimate ground for halting where they now did, as they were simply like imperfect translators, who had no thought of the original work, or of going even to the root of a thing they had in hand. It was true that the precious metals were now diverted to other channels, but there was yet, in bronze and other metals, the same power of producing an infinite variety of forms which might again vie with the best ages of architectural art. Mr. Skidmore then referred to the recent discussion, which had taken place at the Royal Institute of British Architects, on "The Hope of English Architecture," but confessed that he did not agree with the reviewer's remarks regarding the part the "Inspired Workman" was proposed to take in the structural part of buildings. The lecturer, however, thought that there was a large amount of truth in what the *Quarterly Review* had said.

In proposing a vote of thanks to the lecturer, Professor Lewis thought that, to a certain extent, they might agree with Mr. Skidmore in his theory, though he spoke from a goldsmith's point of view; but, at the same time, they should not look at any of the forms of architecture without observing that they might have been elaborated in the way the lecturer referred to, many of which undoubtedly owed their origin to the goldsmith. In conclusion, the Professor alluded in eulogistic terms to the liberality of the Goldsmiths' Company in regard to promoting the interests of art workmen by its setting aside prizes, &c., for competition among them.

The Government Arbitrators have opened the inquiry for the acquisition of the site for the church of the Sacre Cœur at Montmartre. The *procès* will be completed about April 15, and the property will be conveyed to the Archbishop of Paris. The laying of the first stone is fixed for June 29, the Festival of St. Peter. The subscriptions are progressing so as to promise the completion of the church in seven years.

FORTHCOMING SCULPTURE.

THE subjects of the majority of the paintings which are in preparation for the coming exhibition of the Royal Academy are tolerably well known by this time. We now propose to note some of the sculpture.

Mr. W. Calder Marshall, R.A., will contribute several statues. One is *Marguerette*, in "Faust." She is represented in the scene where, in a fit of madness and despair, she rushes across a plank, with the intention of drowning her child. The wild expression of the face and eyes is given with remarkable effect. The figure displays long-flowing robes, which represent very forcibly the effect of wind upon drapery. The child is half concealed on the left side of the breast. Mr. Marshall also contributes a life-size model of *Nausicaa* from the "Odyssey;" a statuette in marble of *Estia*; together with a "Convalescent," the sculptor's idea being to indicate the returning point of health. The model represents a female figure seated on a chair in a recumbent position, and sleeping. In the right hand she holds a letter, the envelope of which has fallen down by her side.

Mr. E. B. Stephens, R.A., will exhibit a life-size plaster model of "A Bowler," of which he is now engaged in executing a copy in marble. A handsome and vigorous youth is represented in the act of throwing the bowl. Mr. Stephens will also contribute two models of companion female figures, representing "Morning" and "Evening," both life-size. They indicate respectively praise and prayer. The statue of "Morning" is represented as on one knee, and with up-lifted head singing "Lord! teach me how Thy love to sing." "Evening" is represented in an attitude of prayer, exclaiming "Lord! teach me how to pray."

Mr. Thornycroft will not contribute during the present season in consequence of having for some considerable time past been engaged upon the colossal statuary for the monument to the late Lord Mayo, Governor General of India.

Mrs. Thornycroft will, however, contribute two fine marble busts, which have been executed for Her Majesty the Queen. One is a bust of the Princess Christian and the other a bust of the Princess Louise; both are admirable likenesses.

Mr. W. H. Thornycroft contributes a tablet in marble, being a memorial to a child. The subject is "Christ Blessing little Children."

Mr. G. G. Adams, of Sloane Street, who was a large exhibitor last year, will also be a contributor to the forthcoming exhibition. He has a full length life-size figure and two busts.

Mr. T. W. Rowe, of Buckingham Palace Road, who was amongst the exhibitors in 1874, has also several specimens for this year's exhibition. These include a half life-size model group from the Temptation, the subject being "Christ rebuking Satan." The Saviour is represented in front of the group, with his right hand raised as though he would strike Satan, but yet withheld, and displaying the moral power he has over the tempter. Satan is in the rear, in a crouching position, and covering his face. Mr. Rowe has likewise a bust of the Earl of Derby, in terra cotta, half life-size. It is stated that this is the only bust for which his lordship has sat, and it is a noteworthy fact that whilst Mr. Rowe was modelling the bust at his lordship's residence in St. James's Square, his lordship himself was engaged in the act of writing his foreign dispatches. Mr. Rowe has likewise another plaster model, the subject being "Balaam addressing the Israelites."

We regret to say that amongst the names of the sculptors whose works will this year be absent, is that of Mr. Westmacott. He has for some time past been in a bad state of health, but it is satisfactory to know that he is now convalescent.

THE MANLEY HALL SALE.

ONE of the most important art collections that has come under the hammer since the Gillott sale three years ago will be held at Messrs. Christie, Manson & Woods' next month. The collector, Mr. Sam. Mendel, a Manchester merchant, who has recently retired from business, has been a well-known purchaser at the leading exhibitions of pictures within the last 20 years. His galleries, which have been thrown open to the public during the last week and have attracted throngs so great that the art treasures they contained could scarcely be seen, are representative of modern English art. Among the more important works may be mentioned Turner's "Grand Canal, Venice," and "View on the Maas;" Landseer's "Deer Family," Millais' "Chill October," E. M. Ward's "Last Sleep of Argyll" and the "The Execution of Montrose;" and important works by Wilkie, D. Roberts, J. Phillip, Constable, Webster, T. Faed, R. Andell, Calcott, Egg, O'Neill, Herbert, Müller, Leslie, the Linnells (a large collection), H. Wallis, Gale, Peter Graham, W. Collins, Hook, &c. The collection of works by foreign artists is comparatively small, but it includes important specimens of Paul Delaroche, Louis Gallait, Troyon, Auguste Bonheur, Gérôme, Edouard Frère, and Madame Henriette Brown. The sale of the pictures and the plate will occupy six days in London. A fifteen days' sale, also very important, commenced at Manley Hall. On Tuesday the

sale was confined to the engravings after Turner and Sir Joshua Reynolds, which realised upwards of 4,000*l*. The following are the principal after Turner:—"The Bridge of Caligula," by G. Goodall, purchased at the sale of Clarkson Stanfield, 49 guineas; "Ancient and Modern Italy," and "Mercury and Argus," by G. T. Wilmore, 23 guineas; "The Shipwreck," mezzo-tint, by C. Turner, 61 guineas; "The Rivers of England," 16 plates, 76 guineas; "Italy," the series of 56 engravings, by I. Stothard, 17 guineas; illustrations to Campbell's Poems, 20 engravings, proofs, many touched by Turner, 32 guineas; illustrations to Scott's Novels, proofs before letters, 60 guineas; illustrations to the Bible, 17 guineas; and "The Keepsake," 27 guineas; "England and Wales," from the Dillon Collection, 87 guineas; etchings, 36 guineas; "Richmondshire," 80 guineas. The "Liber Studiorum," 70 engravings, 160 guineas, and the same in etchings, 130 guineas. A series of 21 engraver's proofs from the "Liber Studiorum" brought good prices. The nine important sales were as follows:—"Basle," 40 guineas; "Mount St. Gothard," 35 guineas; "Little Devil's Bridge," 40 guineas; "London from Greenwich," 38 guineas; "Inverary Pier," 61 guineas; "Inverary Castle," 43 guineas; "Pembury Hill," 15 guineas; "Marine Dabblers," 20 guineas; "Young Anglers," 14 guineas; "River Wye," 25 guineas; "Watercress Gatherers," 22 guineas; "Æsacus and Hesperie," 34 guineas; "Windmill and Lock," 41 guineas. Eight unpublished etchings were sold as follows:—"The premium landscape," 26 guineas; "Glancus and Seylla," 10 guineas; "Sheep-washing," 14 guineas; "Crowhurst," 22 guineas; "Swiss Bridge, Mount St. Gothard," 10 guineas; "Dumbarton," 15 guineas; "Temple of Jupiter Egina," 18 guineas; "Aqueduct and Stork," 19 guineas; "Eton," 12 guineas. Nine unpublished engraver's proofs were also sold as follows:—"Sheep-washing," 36 guineas; ditto, touched by Turner, 40 guineas; "Dumbarton," 34 guineas; "Stonehenge," 42 guineas; "The Felucca," 43 guineas; "Evening Gun," 37 guineas; "Moonrise and Lighthouse," 36 guineas; "The Rainbow," 40 guineas.

The engravings after Sir Joshua Reynolds were 36 in number, and realised above 1,360 guineas. The sales were as follows:—"Felina and her Companion," by Collyer, 20 guineas; "Juvenile Amusement," 21 guineas; "Lady Mary Leslie as St. Agnes," by Spilsbury, 27 guineas; "Mrs. Hall as L'Allegro," by J. Watson, 31 guineas; "The Strawberry Girl," by T. Watson, 70 guineas; "Lady Catherine Pelham Clinton," by J. R. Smith, 74 guineas; "C. J. Fox, Lady Susan Strangway, and Lady Sarah Lennox in the Garden of Holland House," by J. Watson, 66 guineas; "Diana finding Cupid," by J. Watson, 16 guineas; "Lady Townsend," by J. Green, 20 guineas; "The Duchess of Ancaster," by Dixon, 30 guineas; "Miss Horneck," by Dunkerton, 21 guineas; "The Three Graces," by T. Watson, 100 guineas; "The Duchess of Buccleuch and Lady Mary Scott," 100 guineas; "Lady Bamfylde," by T. Watson, 135 guineas; "The Hon. Mrs. Stanhope," 31 guineas; "The Gentle Shepherdess," by Grozer, 12 guineas; "Lady Caroline Montagu," by J. R. Smith, 110 guineas; "The Marquis of Lichfield," by Jenner, 11 guineas; "St. Cecilia" (Miss Agnew, afterwards Mrs. Sheridan), by W. Dickinson, 60 guineas; "Minding Sheep," Miss G. Watkin, 30 guineas; "The Careful Shepherdess," by E. Juddins, 32 guineas; "Lady Charles Spencer," by W. Dickinson, 45 guineas; "Lady Sarah Banbury," by E. Fisher, 20 guineas; "Lady Talbot," by V. Green, 60 guineas; "Dr. Johnson," by J. Watson, 21 guineas, and "Dr. Johnson," by W. Doughty, 33 guineas; "Countess of Waldegrave," by Houston, 27 guineas; "Elizabeth, Duchess of Ancrum," by Dixon, 13 guineas; "Miss Greville and Brother," by McCardell, 19 guineas; "Cherubs' Heads," by P. Simon, 39 guineas; "Oliver Goldsmith," by J. Marchi, 31 guineas; "Sir Joshua Reynolds," by V. Green, 21 guineas; and "Miss Cholmondeley" (afterwards Lady Mulgrave), by G. Marchi, 30 guineas.

The sale on Wednesday consisted of engravings after the early Italian masters, Wedgwood ware, and ivory carvings, and the collection realised upwards of 5,000*l*. The following were the more important sales:—"Faith, Hope, and Charity," after Raphael, by Desnoyers, 36 guineas; "Lo Spasimo de Sicilia," after Raphael, by Toschi, 50 guineas; "The Descent from the Cross," after D. Da Volterra, by Toschi, 41 guineas; "La Bella del Tigliano," after Titian, by F. Forster, 25 guineas; "Aurora," after Guido, by Raphael Morghen, 80 guineas; "The Marriage of the Virgin," after Raphael, by G. Longhi, 125 guineas; "La Madonna della Scodella," after Correggio, by Toschi, 26 guineas; "The Reading Magdalen," after Correggio, by Jonghi, 65 guineas; "Apollo and the Muses," after Raphael, by Messard, 26 guineas; "Madonna di San Sisto," after Raphael, by C. F. Müller, 24 guineas; "La Belle Jardinière," after Raphael, by Desnoyers, 44 guineas; "St. John," after Domenichino, by F. Müller, 33 guineas; "The Last Supper," after Leonardo da Vinci, by Raphael Morghen, 330 guineas. These plates were all proofs before letters.

TOUGHENED GLASS.

A CORRESPONDENT of the *Daily News* says that the Bastie glass exhibited at the last meeting of the Society for the Encouragement of Manufactures is a noteworthy invention. It is tough, as well as hard, and resists the action of the fire. It can be applied to water conduits and a number of culinary utensils instead of enamel, or the leaded tin so much used in the hardware trade in Paris. The experiments were highly satisfactory. Thin plates of this glass were thrown on a tiled floor from a height of 3 metres, i.e., a little more than 9 feet, without injury. They were then flung with violence about the room and against the walls, and held over gas jets. A weight of 100 grammes was also dropped on them from the height of 3 metres. The resisting temper of the Bastie glass is obtained by means of a chemical bath, to which it is subjected when hot from the furnace. Some specimens showed more resisting power than others. Those which yielded to the blows they received only broke in the spots where they were hit. There was a remarkable absence of continuous cracks. Wherever the hammer took effect the glass lost cohesion and transparency, and was reduced to granulous particles. A company is in course of formation to work the patent.

SALE OF PICTURES.

A LARGE collection of water-colour drawings by Turner, David Cox, Copley Fielding, De Wint, W. Hunt, and other artists of the English school, with some fine drawings by Madame Henriette Browne, Mdle. Rosa Bonheur, M. Israels, M. L. Gallait, and M. Edouard Frère were sold by Messrs. Christie, Manson & Woods on Friday and Saturday in last week. There were 324 lots, and of these 74 were by David Cox, 56 by Turner, and 17 by F. Taylor. "The Rialto," by R. P. Bonington, sold for 73*l.* 10*s.*; "Hawking Party," by G. Cattermole, 84*l.*; "River Scene," by G. Cattermole, 73*l.* 10*s.*; "Venetian Stage Barge," by G. Cattermole, 71*l.* 8*s.*; "The Harvestfield," by De Wint, 367*l.* 10*s.*; "A Winter's Morning," by E. Duncan, 90*l.* 6*s.*; "A Coast Scene," by Copley Fielding, 110*l.* 5*s.*; "A Girl with a Pitcher," by W. Hunt, 81*l.* 18*s.*; "A Boy with Lighted Candle," by W. Hunt, 100*l.* 16*s.*; "Flowers in a Jug," by W. Hunt, 53*l.* 1*s.*; "Dailford Creek," by W. Muller, 73*l.* 10*s.*; "Paddie Cox Writing," by E. Nicol, A.R.A., 162*l.* 15*s.*; "Caen," by S. Prout, 116*l.* 11*s.*; "Verona," by S. Prout, 157*l.* 10*s.*; "A Norman Tower," by S. Prout, 131*l.* 5*s.*; "Hastings Beach," by C. Stanfield, R.A., 86*l.* 2*s.*; "The Companion," by C. Stanfield, R.A., 105*l.*; "The Favourites," by F. Taylor, 141*l.* 15*s.*; "Girl and Child at a Spring," by F. Taylor, 13*l.*; "A Dead Stag and Grouse," by F. Taylor, 77*l.* 14*s.*; "Cromwell's Ironsides," in a landscape, by F. Taylor, 186*l.* 18*s.*; "Calling in the Hounds," by F. Taylor, 157*l.* 10*s.*; "The Highland Ford," by F. Taylor, 131*l.* 5*s.*; "The Death Shot," by F. Taylor, 87*l.* 3*s.*; "Driving Cattle in the Highlands," by F. Taylor, 147*l.*; "A Girl with Fish," 63*l.*; "A Highland Bothie," by F. Taylor, 120*l.* 15*s.*; "The Return from the Hunt," by F. Taylor, 241*l.* 10*s.*

By D. Cox: "A Barge on the Waveney," 73*l.* 10*s.*; "Fishing Boats," 106*l.*; "Waiting to Cross Lancaster Sands," 220*l.* 10*s.*; "Distant View of Brough Castle," 47*l.* 5*s.*; "Shrimpers, near Fort Rouge, Calais," 84*l.*; "Entering the Common," 131*l.* 5*s.*; "Going to the Mill," 131*l.* 5*s.*; "Shrimpers on the Shore near Calais," 141*l.* 15*s.*; "St. Paul's," 84*l.*; "Market Women Crossing a Heath," 220*l.* 10*s.*; "Snowdonia," 105*l.*; "Waiting for the Ferry," 105*l.*; "The Thames at Greenwich," 115*l.* 10*s.*; "Cows on a Common," 105*l.*; "A Heath Scene," 189*l.*; "A Welsh Lane, with Market Cart," 141*l.* 15*s.*; "A Timber Waggon, Bettws-y-Coed," 105*l.*; "Twilight," 504*l.*; "The Hayfield," 157*l.* 10*s.*; "A View from Bolton Park," 441*l.*; "Crossing Lancaster Sands," 398*l.* 15*s.*; "Undershot Mill," 106*l.*; "Ireath Mawr, Carnarvonshire," 178*l.* 10*s.*; "Pass of Killiecrankie," 351*l.* 15*s.*; "Snowdon, with Sheep," 89*l.* 5*s.*; "A Landscape, with Brigadas," 682*l.* 10*s.*

By Turner: "Lincoln Cathedral," 136*l.* 10*s.*; "Venice," 78*l.* 15*s.*; "St. Gothard Valley," 84*l.*; "Vineyards on the Rhine," 63*l.*; "Castle on a Height, Genoa," 63*l.*; "Courmayeur," 74*l.* 11*s.*; "Yarmouth Sands," 231*l.*; "Thunderstorm and Sunshine," 95*l.*; "Val d'Aosta," 106*l.*; "Ehrenbreitstein and Coblenz," 152*l.* 5*s.*; "Lake Leman," 283*l.* 10*s.*; "Venice," 315*l.*; "Heidelberg," 110*l.* 5*s.*; "Val d'Aosta," 115*l.*; "Coast Scene—Storm," 81*l.* 10*s.*; "Coblenz," 110*l.*; "Lausanne," 162*l.* 15*s.*; "The Glacier des Bossons," 168*l.*; "River Scene—Tyrol," 210*l.*; "Swiss Mountain Torrent," 280*l.*; "St. Gothard Fort," 252*l.*; "Fortbard, Tyrol," 163*l.* 15*s.*; "The Brunieg Pass," 84*l.*; "Coblenz," 127*l.*; "Convent of Bons Hommes, Chamounix," 126*l.*; "Castle of Chillon," 157*l.* 10*s.*; "Lake of Lucerne," 840*l.*; "Grenoble," 1,680*l.*

By Rosa Bonheur: "Deer in the Forest of Fontainebleau," 451*l.*; "Stag and Hinds," in sepia, 294*l.*; "Sheep," 98*l.* 10*s.* By Henriette Browne: "A Coptic Gentleman Dictating to his Scribe," 294*l.* By E. Frère: "The Album," 88*l.*; "The Morning Bath," 63*l.*; "The Interesting Story," 84*l.* By L. Gallait: "Peace," 304*l.* 10*s.*; "Mother and Child," 63*l.*; "Mother and Child in Cornfield," 278*l.* 5*s.* By I. Israels: "The Fisherman's Return—Evening," 67*l.* 4*s.*; "A Dainty Morsel," 137*l.*; "Old Age," 100*l.* 16*s.*

Oil Paintings.—D. Cox: "Bolton Park," 115*l.* 10*s.* F. Goodall, R.A.: "Street in Cairo," 215*l.*; "Ave Maria," 215*l.*; "An Arab Woman and Child," 305*l.*; "A Sheikh on a Camel," 230*l.* W. Muller, 1842: "A Cottage with Figures—Winter," 177*l.* 10*s.* "John Gilpin," by E. M. Ward, 199*l.* 10*s.*

THE ARTISANS' DWELLINGS BILL.

AT the last meeting of the Liverpool Architectural and Archaeological Society there was a discussion upon the subjects of "Labourers' Dwellings" and the "Possible Advantages of adopting in Liverpool the Appointment of District Surveyors, as in the Metropolis." Mr. Joseph Boulton was in the chair.

Mr. FORREST, a member of the Town Council, said that the Artisans' Dwellings Bill, now before Parliament, would no doubt become law in a shape which would result in action being taken to ventilate densely populated parts of such towns as Liverpool; but, in connection with the opening up of these places, there was the provision of providing, as near as possible to the houses demolished, compensating accommodation. It had, however, occurred to him that, instead of Corporations being compelled to provide buildings of an improved character upon the exact sites of buildings which it might be found necessary to demolish, dwellings might be constructed at a little distance—so far as Liverpool was concerned—upon the borders of the railway systems by which it was surrounded. He thought that in this way people might be located so as to be brought cheaply and rapidly into the very heart of the town. With regard to the question of adopting in Liverpool the appointment of district surveyors as in the metropolis, it was a fact that in Liverpool an examination was only made as to the structural character of the buildings, sanitary provisions being overlooked, which was not the case in London. The Health Committee could not interfere until a nuisance was actually proved to exist, and then the great difficulty came in the way that, the sanitary arrangements being under ground, the source of the nuisance could only be ascertained by digging into the foundations. He gave an instance of a street in Everton which he examined, with the result of finding that from end to end there was no stoppage whatever between the sewer and the houses. He did not know that the servants of the Corporation could do a better service for the

health of the town than to make an investigation in the direction which he indicated. He believed that a condition of things in a sanitary point of view would be shown such as they had no conception of.

Mr. EDWARD A. HEEFER said he thought the time had come when Liverpool should be divided into districts, each with a surveyor to thoroughly supervise the erection of buildings, and, further, to look at the drains and substructure before the buildings were finished. He believed that so far as these duties were now concerned the limited staff of officials had done their best, but in number the staff was quite inadequate to the duties. He quite agreed with Mr. Forrest that some steps should be taken to get the present condition of matters altered, so that there might be proper surveyors in apportioned districts, and buildings and building operations might be looked after carefully.

Mr. MERCER said that the matter of ventilation in regard to labourers' dwellings was a very simple matter. It might be done by making a hole in the roof. With regard to the position of labourers' dwellings, it was necessary to have them near to places of the men's every-day work. He thought, however, that in any work of reconstruction the Corporation should see that the streets were made of greater width than now. The principle which had been acted upon hitherto appeared to be that of making streets with small dwellings narrow and streets with large houses wide. He thought that such a principle was a mistake.

Dr. J. W. HAYWARD said that in regard to the situation of workmen's dwellings he rather agreed with Mr. Mercer than with Mr. Forrest. He thought it was a great advantage to have a man's dwelling near to his work. He approved of the suggestion that the Corporation should appoint surveyors to look after sanitary arrangements before the erection of buildings. It was not his opinion that the question of ventilation could be so easily disposed of as Mr. Mercer appeared to suppose.

Mr. J. MONTGOMERY, parish surveyor, considered that labourers' dwellings outside the town, with the convenience of cheap trains, would be better than having people crowded in buildings such as were proposed in a system of reconstruction. Were it possible to provide space near to the sphere of men's work it would be all right, but he could not see how that could be done. He approved of the proposition of district surveyors, and considered that there should be at least half-a-dozen of them. He was surprised that the Health Committee had so little power as they appeared to have in saying what sanitary provisions should be made before the work went on.

Mr. FORREST: They have with regard to the structural work.

Mr. MONTGOMERY said he had also thought that they had power in relation to drainage. It was frightful how buildings were constructed now, almost on the sod. That sort of thing was done even in connection with a "good class of houses."

Mr. DUNCANSON (deputy water engineer) said that if the densely-built portions of the town were to be cleared away and rebuilt with workmen's dwellings, the overcrowding would continue as a matter of course. He, therefore, saw nothing for it but to get the people away from the town in the manner which had been suggested by Mr. Forrest.

Mr. HEEFER said he was surprised that anyone could be opposed to the erection of labourers' dwellings outside a town. So far as convenience to work was concerned, a workman might get as conveniently to Tuebrook as to a street in some low quarter of the town. Early trains for working men had been in operation in London for years.

The CHAIRMAN called attention to the fact that although the Sanitary Act was obtained in 1847, or 27 years ago, the rate of mortality at the present day was greater than then. He wished that some one would define what was meant by overcrowding. The late Mr. Newlands was of opinion that not more than 100 persons should be put on an acre of land, but the Home Secretary had instanced the other night a locality in which the population was in the proportion of 1,600 to the acre, while the annual mortality was only 15 in the 1,000. He asked, in the face of this fact, what came of the overcrowding theory?

Mr. FORREST said that it was perfectly well known to the Health Committee that the rate of deaths could be marked with certainty just as a district was densely populated or otherwise. The instance given by the Home Secretary was no doubt exceptional in some way.

LIFTS IN LARGE BUILDINGS.

MESSRS. G. WALLER & Co., of Southwark, have recently erected two lifts of an improved character in the Royal Hotel, Blackfriars. One of these is for the use of visitors, and the other for the transference of luggage. They are self-acting hydraulic-ram lifts, and are worked by a fall of water from a tank on the top of the building—a tank which contains 12,300 gallons of water, and is at an altitude from the basement of about 114 feet. The mode of construction of the two lifts is the same. Two wells are sunk under each lift-hole, one 62 feet deep, and one 81 feet deep. The top parts of the soil are of gravel, and are lined with iron cylinders, the lower parts being of brickwork in cement. Cast-iron cylinders are sunk in these wells, in which work the rams, 9 feet in diameter, their length being equal to the rise of the lift. The cages are 7 feet 3 inches and 5 feet 8 inches inside, and are constructed of wrought-iron girders and framing, all strongly braced together. The roofs are of $\frac{1}{4}$ -inch plate iron, and the insides of the cages lined with match-boards. The chains and counterbalances are sunk in the walls on either side. The latter run in angle iron guide-bars, sunk in recesses in side-walls. The main guide-bars of the lifts are planed, and most accurately fitted and fixed. The guides fixed to the cage are lined with gun metal, and have springs with which to take off any oscillation. The valve boxes and gear are perfectly under control, and absolutely safe. Self-acting gear is fixed at the top and bottom for stopping, when at the highest and lowest points. There is a patent indicator to show the position of the lifts at any floor. There is similar machinery for summoning them almost instantaneously to any spot at which they may be wanted. There is no noise in the working of the lifts, which, without the indicator referred to, are similar to those so successfully constructed at St. Thomas's Hospital by Mr. F. Colyer, now a member of the firm in question.

THE VALUE OF PROPERTY IN ROTHERHITHE AND DEPTFORD.

THE East London Railway Company, in the construction of their underground line from Wapping to New Cross, had to purchase a considerable amount of property in Rotherhithe and Deptford, and on Tuesday last some of these surplus lands and buildings were sold at the mart by Messrs. Farebrother, Clark & Co. The property consisted of 75 lots, and contained dwelling-houses, carcases, and building land in Rotherhithe and Deptford adjoining the north-east and south-west sides of the railway, and several plots of land situated immediately over the line. Five plots of building land on each side of the Rotherhithe station with frontages to Adam street and Albion Street, and containing an aggregate area of about 18,000 superficial feet, were sold for 645*l.*, whilst three other plots, the surface of which is immediately over the railway, and to which some objection was taken as regards their suitability for building, on the ground of vibration, realised 1,130*l.* Their aggregate ground area was 19,584 superficial feet, being at the rate of a little more than one shilling per foot. Nine houses with a frontage to Berkeley Street, Rotherhithe, producing an aggregate annual rental of 124*l.*, were sold for 1,528*l.*; and seven houses in Wellington Street, with a rental of 75*l.*, realised 1,175*l.* A triangular piece of land in the Lower Deptford Road, near the Deptford Station, was sold for 210*l.*; an unfinished house, with land, in the New Road, a short distance from the station, for 500*l.*; and three houses in Hawthorne Terrace, New Road, Deptford, producing an annual rental of 59*l.*, realised 790*l.*

In addition to the company's surplus property just described, a number of freehold building-plots in Deptford, situated on the south-west side of the railway, and extending in that direction to the boundary of the London and Greenwich Railway, were also offered for sale. These plots were divided into 35 lots, and described in the particulars as being only a few minutes' walk from the Deptford and South Bermondsey Stations. It was also stated that they were well adapted for building purposes, having been specially laid out for that purpose by the East London Company, who had constructed both roads and sewers. The estate, which lies to the south-east of the Rotherhithe New Road, and what are well known as St. Helena Gardens, occupies an area of about 20 acres in extent, and was formerly agricultural land belonging to the Deptford Charcoal Company, and the railway company were compelled to purchase it at the same time that they obtained possession of the charcoal manufactory, which was required for the purposes of the railway. The plans of the estate submitted at the sale showed that eight commodious new roads, 40 feet in width, had been laid out and drained, and that about 450 houses will eventually be erected on the estate. The different lots offered have a frontage of 96 feet to the several roads, the average number of houses intended to be erected on each plot being from seven to eight, with a larger number on some plots of much larger dimensions. Seven of the lots offered were sold for 2,965*l.*, and the entire proceeds of the day's sale amounted to 8,935*l.*

TEMPLE BAR.

ON Tuesday, at a meeting of the Commissioners of Sewers for the City of London, Mr. Whinfield Hora, Deputy Chairman of the Finance and Improvement Committee, submitted a report from the engineer to the Commission, Mr. Haywood, upon the subject of an improvement in the vicinity of Temple Bar and the New Law Courts. In that document Mr. Haywood reminded the Commissioners that in 1868, in his report upon the traffic and improvement of the City of London, he suggested that the houses should be removed on each side of Temple Bar, a circus formed, and the Bar be left in the centre, which would have relieved the traffic in the neighbourhood of the Bar, and would not have been relatively a costly improvement. The contemplated erection of the New Law Courts prevented such a circus being formed. The line of enclosure of the Courts, according to a plan of Mr. Street, would be 11 feet back from the northern side of the Bar, and that width of ground, which Mr. Haywood assumes will be thrown into the public way—can only be used, it is said, as a footway, and any further widening of the street would require to be made on the southern side of the Bar. The plan laid before the Commissioners indicated three lines of improvement. First, one beginning opposite to St. Dunstan's Church, at the widest part of Fleet Street, and ending by Palgrave Place, Strand, would give a width of 80 feet by Temple Bar, and a width of 70 feet by Chancery Lane. The second line, commencing opposite to St. Dunstan's Church, and ending 46 feet east of Palgrave Place, would give a width of 70 feet by Temple Bar and of 62 feet by Chancery Lane. The third line, commencing nearly opposite Chancery Lane, and terminating 46 feet to the east of Palgrave Place, would leave nearly a width of 70 feet by Temple Bar and Fleet Street, by Chancery Lane the same width as at present. Fleet Street, near Fetter Lane, is 69 feet wide, and the Strand at Palgrave Place being 74 feet wide, a 70 feet width appears to Mr. Haywood the least that should be given to that important thoroughfare. Looking, however, he says, to the great changes which will probably be made in the property in the immediate vicinity of the Law Courts, he thinks the 80 feet line the preferable one. It would necessarily cost more than the 70 feet line, but not proportionately so. Moreover, a street 80 feet wide would afford ample room for the erection of another bar, which, if designed in connection with the Law Courts, might be made a fine architectural combination, or the existing Bar might be re-erected, the two side arches being close to the traffic, the centre arch being left open to traffic, and a carriage-way formed on each side of the Bar. If either of two of the indicated lines were adopted, says Mr. Haywood, it would be absolutely necessary to set back the frontages of the houses between Chancery Lane and the New Law Courts. If, however, the 80 feet line were adopted, that would not be necessary; but, nevertheless, in his opinion, it would be far better to carry out an improvement on the northern side, and any improvement, he says, would be defective unless it were carried out at least as far as Chancery Lane. He adds that 7,000 vehicles pass daily through Fleet Street at that spot, of which about 1,300 traverse Chancery Lane. It

would also be desirable to widen Bell Yard while the larger improvement was in hand.

This being the purport of the engineer's report, Mr. Hora, in moving its adoption, asked for authority to confer with the City Lands Committee of the Corporation of London, the Metropolitan Board of Works, and, if need were, with the Government on the subject.

The Chairman of the Commission explained that the object of the reference had been to consider the question in all its parts, and he thought it would be useless for the Committee to do that among themselves without the aid of the Board of Works, of the City Lands Committee at least, if not also with a Department of the Government.

Mr. Lowman Taylor thought it was the duty of the Commission of Sewers to take the initiative in the matter, although a large part of the contemplated improvements would be out of the City, whence arose the necessity for a conference with the Metropolitan Board.

Mr. Rudkin deprecated the Commission, at that stage, pledging itself to any definite plan, and he suggested that it should for the present wait and see what the Government were prepared to do.

After some further discussion, the report of the committee was adopted.

THE INCLOSURE COMMISSION.

THE Inclosure Commissioners in their 30th annual report, which has just been issued, state that it is mainly a repetition of the contents of their last report, inasmuch as they have felt it to be their duty to discourage fresh applications for inclosure pending the decision of Parliament on the conditions upon which sanction shall in future be given to further inclosures of waste land. The return printed by order of the House of Commons last year shows that the extent of common lands still uninclosed is about one-fourteenth of the entire surface of England and Wales, being 2,632,772 acres in extent. Two-thirds of this are in the mountainous and more elevated districts of the country, and one-third in the lower counties. There were apparently cultivable 883,989 acres; unsuited to cultivation, 1,484,476 acres; and common field lands, 264,307 acres. Adding the apparently cultivable and "common field" lands together, there would seem to be more than one million acres still available for improvement, and for extending the productive area of the country. And much of the high land, though unsuitable for cultivation, might be greatly improved for pasturage or plantations, if released from common rights and held in severalty. Nor need any of the present advantages enjoyed by the public be injuriously affected in the process, for it may be assumed that the contemplated amendment of the Inclosure Act will in all cases ensure that suitable provision shall be made for the labouring poor, and for the recreation and convenience of the neighbouring inhabitants. The entire extent already dealt with under the General Inclosure Act, and which is now held in severalty or in course of becoming so, amounts to 620,000 acres. But, in the thirty years during which this process has been in operation, an abridgement of the agricultural area of the country, more than equivalent to this addition, has been going on. The census returns for 1871 show that, in the 20 years from 1851, the area occupied by towns has increased by 489,000 acres. When to this is added the area during the same period taken by railways, say 200,000 acres, there results a total of nearly 700,000 acres thus withdrawn from cultivation. The number of applications of all kinds since the passing of the Acts has been 6,973, of which 5,842 were confirmed, and 272 were still in progress. The number of cases since the last annual report was 204. The acreage of inclosures confirmed was 587,867, and the estimated acreage of inclosures in progress 83,868 acres. Of the total number of acres in confirmed inclosures, the number upon which public allotments could be required by the commissioners was 414,046, and the extent set out of the public allotments for exercise and recreation was 1,746 acres, and for gardens of the labouring poor 2,183 acres.



"Honour to whom Honour is due."

SIR,—As one of the many sanitary reformers who have benefited by the exhaustless zeal of Mr. Godwin, I write to endorse every word you have said respecting him in your admirable article last week, and I think Mr. Rawlinson's letter to the *Builder* a timely act from one whose experience and public services entitle him to be heard with deference.

So far back as the year 1853 I have had occasion to acknowledge the good offices of Mr. Godwin, and in the supplementary notice of the labours of the Local Board of Health for the district of Regent Square Church, St. Pancras (to which I acted as hon. architect and secretary), it will be seen that the *Builder* was the only professional journal which gave us the benefit of its counsel and encouragement.

Since that period, I have witnessed in common with every other person interested in sanitary work, his unflinching industry and persevering efforts to obtain a hearing for the best schemes for the improvement of public and private drainage and water supply; and for the proper ventilation and healthful construction of buildings generally.

The papers on hospitals have been text-books for the architect and medical officer ever since they were written, and the State has had no better expounder and populariser of the provisions of the Acts of Parliament relating to the public health of our countrymen than the Editor of the *Builder*.

I must also congratulate you, sir, upon your disinterested advocacy of Mr. Godwin's claims to distinction, and I trust he may be made to feel that, whether he be recognised or not in the way proposed, there exists a large constituency of grateful appreciators of his meritorious labours.

I am, Sir, yours, &c.

EDWD. C. ROSS.

16 Southampton Street, Strand.

The Ceiling of Therfield Church, Royston.

SIR,—Our parish church is about to be rebuilt, and we are shortly to commence the work of taking down. In my chancel there is a flat ceiling 35 feet long by 18 feet 6 inches wide, ornamented by bold scrollwork of the acanthus leaf, having an alto relief ellipse in the centre well treated with classical foliage, and a cornice filled in with enrichments, &c. This ceiling was put up by Bishop Turner when he restored the chancel in memory of his wife in the year 1678. As the roof of the chancel is to be restored to its original pitch, I should be glad to hear of any one who might like to remove this curious work of art, and who would find a home for it in some building more fitted for it than the chancel of a church. The church is situated about four miles from Royston railway station, and about thirty-six miles from London.—I am, yours faithfully,

Therfield Rectory, Royston,

March 16, 1875.

JOHN G. HALE.

[A photograph of the chancel showing this ceiling may be seen at the office of the *Architect*.]

Diversities of Architectural Practice.

SIR,—If I were asked as one of your professional subscribers, what are the most useful articles that have been inserted in the *Architect*, I should reply, those which have treated of the various methods, adopted by English, French, Scotch and American architects, of procuring tenders from builders and adjusting extras and omissions.

The last of these articles was concluded in your issue of March 13, being a timely reprint of Mr. Fogerty's Paper, read before the New York Chapter of the American Institute of Architects, one of the most sensibly written professional essays I remember to have seen. I should much like to see the correspondence columns of the *Architect* amply laid open for an exhaustive consideration of Mr. Fogerty's Paper—especially of the latter instalment of it, that treats of tenders, quantities, and the method of ascertaining and adjusting extras and omissions. Mr. Fogerty shows us the American architects have much to learn on these subjects from their English brethren; but, he seems to think we ourselves have something to learn from our fellow-practitioners of Scotland. I have myself given some little attention to the Scottish system of contracting; and am very much of Mr. Fogerty's opinion. Will any one of your Scotch readers take up the subject of Scotch quantities, or, "schedules," as they are termed, and treat it and the adjustment of extras and omissions in the able and exhaustive style of Mr. Fogerty's "Differences between British and American Architectural Practice." It is a great misfortune that questions of this kind, vitally affecting the welfare—I might even say the very existence—of our profession, form too often themes for facile speakers at public meetings, or, worse still, flippant amateur writers of the non-professional press; while architects, remaining silent (even in their own journals) go deservedly to the wall. Mr. Fogerty well observes of American architects:—

"The American public has little or no faith in architects' estimates. The report of Governor Dix to the Legislature of New York contained most severe strictures on the profession in this respect; and, whether fully justified or not, his remarks were extensively echoed by the press; and I am not aware that any satisfactory answer or explanation was ever given on the part of the profession."

Just so: the same thing occurred in this country during the public discussion of the drawings-property question; and we see the same reticence on the plausible arguments against the remuneration of architects by commission on outlay. It is quietly assumed (as we say nothing) we have nothing to say, and really with some reason.

To recur again to the Scottish system of tentative "schedules" and ultimate admeasurements, your English readers, who study Mr. Fogerty's remarks upon it, will be struck, as I have been, by the half-hearted objections raised—or supposed to be raised—against it. Mr. Fogerty says, "it often involves a remeasurement of the work; but it secures that the client only pays exactly for the amount of work he gets, and the builder is sure of being paid for all the work he has done." Why, this, Mr. Editor, is the very embodiment of perfection! What but this can client, architect, and contractor sigh for? Compare it with our English system, so unsatisfactory, so fruitful of litigation. Here, on our side of the Tweed, we often consume twice the time a thorough remeasurement would occupy in first getting in a contractor's own elaborated account of alleged "extras" (wonderfully silent as to mutually known "omissions," and *ex parte* known over-estimating), and then wrangling over it after grievous delays and a liberal effusion of red ink on the part of the puzzled architect. The tedious contest resolves itself at least into one of two results—neither of them satisfactory to anyone—either the architect gives way with a shrug, and a determination never to employ that contractor again, or he stands out and advises his client to sustain an action at law; when, after months of consultation and bandying of evidence and red tape, one of the parties obtains the traditional oyster-shell, and each is left to ruminate on "the glorious uncertainty of the law" of brick and mortar. They manage these things better in Scotland. Will any philanthropic reader narrate to us the details of the process? Your obedient servant,

AN ENGLISH ARCHITECT.

Forthcoming Contracts.

Tenders will be delivered on Wednesday next, the 24th instant, for a house at Arkwright Road, Hampstead, for Mr. W. Duncan Knight. Messrs. Spalding & Knight, Architects.

Tenders will be delivered on Monday next for new school buildings, &c., in connection with Stepney Meeting. Messrs. C. G. Leach & Son, Architects.

Some new buildings will shortly be erected on the site of No. 46 and 47 Newgate Street, for Mr. I. W. Ridley. Quantities by Mr. Richard Roberts.

Surveyors will shortly be appointed for the quantities of the new military brigade depot at Hounslow.

Tenders will be delivered in the course of next week for a new block of buildings on the Holborn Viaduct. Mr. E. N. Clifton, Architect.

General

The Brighton Picture Gallery will shortly have on exhibition a collection of pictures by modern foreign artists, the property of Mr. J. S. Forbes, West Wickham, Kent, which will be on loan for six months. The collection contains works by Israel, Daubigny, Rousseau, Troyon, Jules Breton, and others.

The Gallery of the Louvre has just been enriched by the portraits of Marie de Medicis and Henry IV., painted by the elder Porbus.

The Collection of Paintings belonging to the late Sir William Drummond Stewart, Bart., will be sold in Edinburgh on Saturday next. Among the works attributed to the great masters are—*St. George*, by Guido; *A Portrait of Raphael*, by himself; *Mater Dolorosa*, by Titian; *The Wise Men's Offering*, by Albano, and four allegorical subjects by Paul Veronese.

The Mayor and Town Council of Windsor, at a special meeting, have resolved to accept the bust of the late Mr. Charles Knight, author and publisher, which has been offered them by the Knight Memorial Committee.

M. Viollet-le-Duc's "Annals of a Fortress" is about to be published in English.

Mr. John Wellspring, the senior partner in the firm of Messrs. Wellspring & Son, builders, Dorchester, died on the 6th inst., aged 75 years. He had been extensively engaged in the construction and restoration of churches.

Mr. Brindley's Lecture at the Royal Architectural Museum has been postponed until April 3.

The Director-General of the Philadelphia Exhibition has telegraphed to the Imperial Commission sitting in Berlin that, according to a decision of the United States Attorney-General, goods exhibited would not be liable to seizure by creditors in the event of the Exhibition proving a financial failure.

The Duke of Sutherland has obtained an injunction to prevent the Tunstall local board of health from polluting with sewage any of the streams in the vicinity of Trentham.

Lord Northbrook has offered a prize of 500 rupees for the best design for a memorial tablet to the late Dr. Stolickza.

Mr. Waller, sen., has been appointed Diocesan Surveyor for the Diocese of Gloucester, vice Mr. Maberly, resigned.

The Dean and Chapter of Exeter have given orders for the immediate re-commencement of the work of restoring the cathedral, which for twelve months has been suspended.

Mr. C. F. L. Horsfall has obtained the first premium in the competition for large co-operative stores at Long-Eaton, near Nottingham.

Dr. John Stuart, of Edinburgh, has been elected an honorary member of the Royal Irish Academy, in the department of Polite Literature and Antiquities.

The Steeple of the old church of the Convent des Emmurées, at St. Sevré, Rouen, has been destroyed by fire.

Some Remains of early Norman windows have been found embedded in the fourteenth century walling of Peppard Church, Henley.

A Memorial of the late Countess of Loudoun is to be erected at Ashby-de-la-Zouch, and Sir Gilbert Scott, R.A., has been requested to furnish the design.

The Officers of the Royal Engineers have placed in Rochester Cathedral a stained-glass window to the memory of the late Captain Buckle, who fell at Coomassie in January last year. A memorial window to the late Dean Stevens will shortly be erected in the Cathedral.

In consequence of the damage so repeatedly done to the Alderney Breakwater in bad weather, it is proposed to abandon any further attempt at constructing the outer arm of this work.

The Artisans', Labourers', and General Dwellings Company have, during last year, provided house accommodation for nearly 3,000 people, and this year it is expected the number will be at least 5,000 more.

The Directors of the Channel Bridge Company have just ordered the construction of an arch 1,000 metres in length, for the purpose of proving the feasibility of the scheme of M. Boulet, engineer at Bourges, of throwing a bridge across the Straits of Dover. A model of this bridge, consisting of a road for vehicles and for foot passengers, will probably be erected in the Bois de Boulogne or Champ de Mars at a height of 15 metres above the ground. The directors maintain that, whereas the tunnel would take eight years and cost at least 25,000,000*fr.*, the bridge could be erected in a few months at an expense of only 600,000*fr.*

The Return for the diocese of Norwich of the sums of above 100*l.* spent in Church restoration since 1840 shows a total of 727,713*l.*, of which 623,751*l.* came from voluntary sources; 102 parishes have failed to send in a return.

The Ecclesiastical Commissioners in five years have sold reversions to the leaseholders to 55,129 acres; lands sold as freehold, in possession, 9,671 acres; lands purchased from lessees under the Commissioners, 19,266 acres; and land purchased as freehold, 10,331 acres. The copyholds of inheritance dealt with during the same period were 497 in number, relating to 9,924 acres.

York House, Twickenham, lately the residence of the Comte de Paris, has been disposed of by private treaty, and is, with its extensive grounds, about to be converted into a first-class hotel.

The Great Western Railway Co. intend to expend 6,000*l.* on the extension of workshops and machinery at Swindon.

The Architect.

GOVERNMENT ARCHITECTURE: THE NEW NATIONAL GALLERY.



R. BERESFORD HOPE is interrogating the Government about the vexed question known as that of the New National Gallery. Nothing will come of the interrogation, of course; but no doubt it is expedient to let in a little light now and then upon the otherwise dull and indeed dismal doings of the State in matters of building, and the Hon. M.P. for the University of Cambridge can do this as effectively as any one else if he be in the humour. The public, if not exactly aware, are scarcely altogether unaware, of the circumstance that something mysterious has been done in the way of bricks and mortar in the rear of the well-known edifice in Trafalgar Square, and somewhere at the east end of it. There are some people also who have a recollection of another circumstance which may possibly, but to all appearance not very probably, have something to do with this—namely, that about seven or eight years ago there was a competition of architectural designs for a renovation of the well-known edifice, by means of which a design by Mr. EDWARD BARRY was selected and ordered to be carried into execution. But what is the real connection between the mysterious and indeed concealed operations at the back of the end of St. Martin's Lane and the re-edification of the National Gallery in Trafalgar Square is what nobody can be reasonably expected to find out for himself, not even Mr. BERESFORD HOPE; and it does not indeed appear that Mr. BARRY knows so much about it as he could wish.

Far be it from us to suggest that Government architectural work in England is not worth having; for, if an ambitious professor of the T-square is ever to arrive at all at such a thing, for example, as the perhaps too common dignity of knighthood, it is not easy to say how it is to be attained except through the ante-chambers of Whitehall. But certainly in architecture, if in nothing else in these days of ours, it may be claimed that there is sound if sad sense in the lines of the old poet:—

The wind is great upon the highest hills,
The quiet life is in the dale below;
Who lives at ease and can content him so
Is perfect wise.

For if Mr. BARRY or Mr. STREET, or even Sir GILBERT SCOTT, were invited to declare his real mind upon the question whether the pleasure, or even the profit, of being a Government Architect is worth the pains—whether the advantage, in any way it can be reckoned, is worth the endurance of the wrangling and buffeting and hope deferred—to say nothing of the eating of a little dirt, or a good deal, as occasion may require—it is very much to be feared that the courtesy of the distinguished artist would prevent such a reply from being given as the circumstances of the case might otherwise be held to warrant. At any rate let us hear what Mr. BARRY has had to submit to, and judge for ourselves.

The façade of the present National Gallery was designed by Mr. WILKINS, R.A., in that remote part of the still current century which had Greek architecture for its ideal. Mr. WILKINS was sufficiently eclectic to do such a thing as a Welsh castle in the mediæval castellated manner of his day; that is to say he would lay out in a perfectly comfortable way the standard arrangement of domestic rooms with which we are all familiar, and put up the parcel, if we may say so without irreverence, in an outside wrapper not unlike that of the Militia Barracks near Finsbury Square; but when he was on his mettle he could accomplish such designs as University College and the National Gallery, and it would be vain to deny that he had in him the genius of graceful and yet majestic architecture in a more than ordinary degree. Critically, however, it must be acknowledged that the National Gallery has not been very much admired; and somehow it has happened that popular prejudice has even gone so very much against it that it has been a standing subject for a variety of both professional and unprofessional jokes. Indeed the edifice has long been in the unenviable position of the man who may be hit hard because he has no friends. And yet some twenty years ago, such was the peculiar appreciation accorded to the design as regarded at least the materials of its composition that one of the most popular of all subjects for the exercise of adolescent skill used to be the re-designing of the Trafalgar Square façade by rearrangements of the porticoes, additions of "attics," and so on in various ways not merely ingenious but sometimes indisputably successful; and it may be said, in fact, that the opinion of connoisseurs came eventually to settle down into the conviction that if Government would but find an inconsiderable sum of money, any one of a score of architects could manage such a readjustment of the composition as would make it a credit, rather than something like the reverse, to Sir ROBERT PEARCE'S "finest site in Europe."

Thus it was that when in 1867 the First Commissioner of Works was authorised to institute a competition of designs for improving away the present façade, competitors were specifically invited to consider whether to prefer an entirely new building or an adaptation of the old one. At any rate, when the problem was thus actually reopened, WILKINS was for the moment avenged in an unexpected way. One of the competitors—Mr. OWEN JONES if we remember rightly—thought it advisable to exhibit a photographic view of the old building in contrast with a similar and corresponding representation of his own new design. The result was that the old showed up so well beside the new as to encourage a few sarcastic people to venture the opinion that WILKINS'S design was the best in the room after all—which, by the way, might seriously be the case for the simple reason that, whatever might be the demerits of the existing building, it had at least the advantage of having been designed at a time when Classic composition was more earnestly studied.

But the end of the competition was that Mr. EDWARD BARRY'S design, for a building to be entirely new, was selected as the best; whereupon Mr. EDWARD BARRY'S troubles began. It pleased Mr. GLADSTONE, in reorganising his Government, to make Mr. AYRTON the First Commissioner of Works—instead of making him something else which he desired to be. "I know nothing whatever of such matters," Mr. AYRTON is reported to have frankly said, "but if I am not to have what I want, why, I must do the best I can with what I have got." And certainly his greatest enemy cannot deny that he did the best he could. Legislators of his own painfully parsimonious persuasion declared him to be the very best First Commissioner they ever had heard of. Cabinet Ministers complimented him in public even when scarcely on speaking terms with him in private. Mr. COLE, C.B., was his official guide, philosopher, and friend. Sir GILBERT SCOTT on one occasion proclaimed him to have behaved towards himself like the very pink of suavity. Mr. STREET happily succeeded in setting him at naught by appealing unto CÆSAR. But Mr. BARRY at any rate failed to find in him either a willing friend or a considerate superior; and it seems to be pretty broadly hinted that the results of the little antagonism then initiated still appear, not only at Mr. BARRY'S expense, but at that of the nation and the National Gallery, in the circumstance that nothing has been done after all these years towards the improvement of the unpopular building but the erection of some insignificant additions at the back. It is understood that Mr. BARRY has taken the bold but intelligible step of remonstrating with the Government. Six long years have slowly passed, not since the announcement of his success in the competition, but since the eventual delivery of his plans and estimates for execution; and still he is kept waiting on, and may, to all appearance, wait on for ever.

Presuming that the authorities of Whitehall have really made up their minds to the erection of a new building—and if not we fail to see the reason for the competition, the selection, and the formal appointment of an architect—it is surely a fair question to ask why there should be such delay. We are quite aware that the National Gallery is not the only undertaking of the kind that happens to be upon the hands of the Government; and that it must take its turn is no doubt a sound argument. But what we think ought to be protested against is the insufferable stinginess which was inaugurated by Mr. AYRTON, and which appears now to have become the fixed tradition of the Office of Works. What is there about the social or political condition of Great Britain that affords a reason for such policy? When France was under the very heel of the conqueror, and mulcted as no nation ever was before, there was something almost touching in the measures that were taken to continue the public works in architectural and other art. Even although her artists had perished on the battle-field and in the hospitals almost by thousands, and those that were left had become anything that offered for daily bread, yet still the nation, far from flying to the inviting shelter of what English people are always calling commendable economy, did not even conceive the idea of sacrificing the national taste for the sake of saving the national pocket. France could suffer the loss of many things, but not of art; for art is not, as we mistakenly suppose, a mere luxurious self-indulgence that perishes with the using, but rather the seed-sowing of a perpetual self-culture which has its sure and certain harvest of permanent enrichment. So also in the case of the great Republic of the West, when we hear of vast sums of money being expended in magnificent buildings, and of a commensurate outlay now and again for works of painting, sculpture, and other fine arts, we see that all this is regarded, and very properly so, as the investment of the public money to the public advantage. Of those European states which are of a different type we need say nothing, lest their liberality should be misconstrued; but it seems to be reserved for England alone to entertain the absurd idea that it is only where "the money of the tax payers" is laid out in ships and soldiers, sewers and bridges, that it is spent to profit, and that when those great works of architectural and other artistic enterprise are to be undertaken which have always been the pride of great nations and the landmarks of their history, it ought to be done with hesitation and reluctance, strife and disdain. Even our municipal corporations are free from the unaccountable meanness which characterises our Imperial Government. The City of London, such great provincial towns as Liverpool and Manchester, and even those placid nests which are possessed of our cathedrals, all lay out their money freely and almost joyfully. The Metropolitan Board of Works might have gone by the board years ago but for the intelli-

gent liberality with which it has carried out its Thames Embankment, the enterprise which beyond all others has been the most expensive and the least productive. Even a man like Sir JOHN THWAITES could see that architecture pays. If the new National Gallery is not wanted, by all means let it be dispensed with; but to cut the scheme down to a back building, to compel the architect of the Law Courts to meet the rise of prices by reducing the value of his work, and to lop off the finishing campanili of the Foreign Office, are expedients quite unworthy not only of English wealth but of English common sense.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

The Merchant of Venice.

THE two stories which the poet has here incorporated into one play, viz., that of the Creditor's Revenge and that of the Caskets, are to be found in the "Gesta Romanorum," and may be seen in the English copy, Harl. MSS., No. 7,333, written in the reign of HENRY VI. In the old story there is nothing to show that the merchant who demands the flesh as the forfeiture of the bond is a Jew, and in the tale of the Three Caskets it is a woman, and not a man, who makes the fortunate selection. Both tales, doubtless, have descended from an eastern source, and no more belong to the "Gesta Romanorum," or even to the fourteenth-century MS., "Il Pecorone,"* than they do to the "Percy Ballads," or to SHAKESPEARE. No doubt can exist as to the time of the action. The text contains no reference of any kind to anything outside the author's personal knowledge, and no mention of any office or person which could connect the play with any other period than that in which it was written. The improbabilities—I may say impossibilities—of these two fictions having any foundation in the history of any European city during the sixteenth century are self-evident. The very dawn of commercial enterprise would be even too late for the two great barbaric events of the play—the flesh-forfeit and the trial by casket. In fact, the Merchant of Venice, as far as its double plot is concerned, but in that only, is as unreal as a drama of this nature can well be, and in this respect affords a striking contrast to the realism of Othello. There remains, therefore, not a shadow of a reason for placing the date of the action earlier than 1590, a quite possible date for the dramatic creation, or later than 1598, the actual date of its entry at Stationers' Hall.† For a reason, which will appear hereafter, I take the year 1590 as the date best suited for the stage representation of this play. The season of the year is manifestly neither summer nor winter; it is certainly not dark before 9 P.M. in summer, even in a narrow Venetian street, and in winter JESSICA and LORENZO would scarcely sit on grass banks at midnight. Again, a small farmer or miller, be his name GONZO or anything else, would have more respect for his birds than to kill them in spring time; and so we may reasonably accept the three months of autumn as the time of the action.

The architectural scenery, divided between Venice and Belmont, may be said to consist, at the most, of five scenes, viz.:—

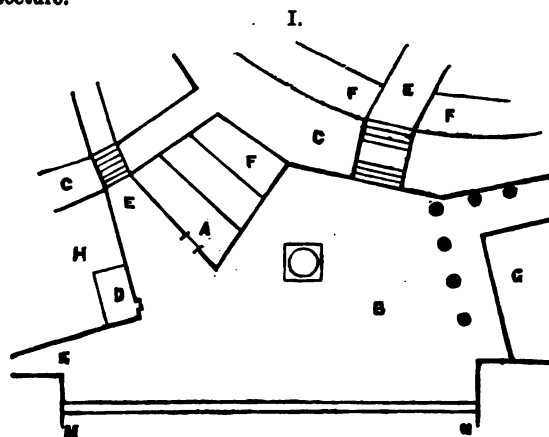
- Venice. — 1. A street or public place.
- 2. The street before SHYLOCK's house.
- 3. A Court of Justice.
- Belmont.—4. A grand hall.
- 5. A garden.

The short third Scene of the second Act contains nothing but what might just as well be said on the doorstep of SHYLOCK's house as inside a room, so that this may be included in the scene numbered 2 in the above list.

So, too, I see scarcely any reason why the talk between PORTIA and NERISSA in the second Scene of the first Act, or the fourth Scene of the third Act, should not have happened in the grand hall or apartment where the caskets are placed. If there were choice flowering shrubs placed in this room so that the lady and her maid might busy themselves about them while they are conversing, and if a corridor at the back of the hall led from some other part of the house into the garden, so that one might pass the hall of the caskets without necessarily entering it, there is nothing in the text of these two scenes inconsistent with their being located in the same room as the more important casket scenes. The scene in the above list marked 5, although described as a garden in Act iii. Sc. 5, and an avenue in Act v., ought to be more or less architectural. If we wish still further to abridge our stock of scenery, the scenes Nos. 1 and 2 may be easily made one, and we shall thus have brought the play into the compass of four set scenes.

The first, i.e., the public place or street in Venice might then be planned, as shown in the annexed diagram, where A is SHYLOCK's house; B, the public place, with a fountain or well; C, canals; D, a pent-house; E, narrow streets; F, Gothic and late Byzantine houses; G, a Renaissance public building, with arcades; H, early Byzantine buildings; and M, N, the procenium. In such a scene as this, of course it is very evident that everything may be built out, and so we should avoid the violence too

often done to artistic minds by the false perspective that arises in the combination of structural and painted scenery. And now, as to the architecture.



It is essential first of all that the scene-painter should bear well in mind that in 1590 Venice was neither a city of palaces nor a city of ruins, and that along her canals and streets two great styles of art, broadly speaking, prevailed, and a third was gradually usurping the place of both; these three styles were the Byzantine, the Gothic, and the Renaissance. To the first belong the great church of St. Mark, the churches of Murano and Torcello, sundry palaces, notably the Ca' Farsetti, the Ca' Loredan, the Fondaco de' Turchi, and a small house in the Rio de Ca' Foscari. To the second belong the church of the Frari, and those of SS. Giovanni e Paolo, the Madonna dell' Orto, St. Stephano, and others, as well as a perfect crowd of palaces and houses, of which those of the Doge, the Foscari, the Giustiniani, the Palazzo Badoer, the Palazzo Cicogna, the Palazzo Persico, and the Ca' d'Oro are characteristic examples. To the third belong the Scuola of St. Mark, that of St. Rocco, the inner court of the Ducal Palace, and among the many houses of this style we may especially note those of the Grimani, the Vandramini, the Cornaro, the Trevisano, the Camerlinghi, the Library of St. Mark, and lastly the canal front of the prison begun in 1589. Broadly speaking, this last-mentioned style obtained from as early as 1485; the Gothic style prevailed during the thirteenth, fourteenth, and fifteenth centuries, overlapping the early Renaissance even to as late as the sixteenth century, and the Byzantine takes us back two hundred years more through the twelfth century palace, Fondaco de' Turchi, to the basilica of Torcello, built in 1,000, and the church of St. Mark founded in 977.

In the compass of a short Paper, and without help from illustrations, it is quite impossible to give any notion of the great variety of fenestration and detail seen in the rise, development, and fall of Venetian Gothic from the semi-Byzantine severity of the uncusped stilted arches of transitional examples, through simple pointed work of even greater severity, having a strong likeness to the refined early Gothic of Verona, down to the full establishment of the O.G. headed opening, ranged at first singly and in small groups, then extended and combined with tracery, once large and noble, as in the early fourteenth century work of the Doge's palace and in a small house near the Ca' d'Oro, but finally wearing itself out in weak reiteration. Photographs of the old houses of Venice are so common and so readily to be had,* that the only difficulty left to a scene-painter is the archaeological one—that of recognising any deductions or additions in detail that may have been made to any Mediæval house since 1590. Moreover, the red brick of Venice is full of such charming colour, and the weather stains upon the stone and marble give such delicious tone to these materials, that one hesitates to write a word that would tend to dispel the vision.

But yet, if we desire to realise the Venice of SHAKESPEARE, we shall have to cover most of the brick with veneer of marble, either plain or in coloured diaper, or with stucco decorated with painted diapers, and the few exceptions to this rule would be the very smallest and poorest houses and the earliest of the Byzantine works. Again, the weather stains on a traceried palace of 1450 would be very different in 1590 from what they were in 1870. Besides, Venice was then in the full swing of the pride of life, and the very notion of decay or dilapidation must have been hateful to her, all the more hateful from an occasional gleam of consciousness that her power was already rapidly decaying and that her pride, satisfaction and self-sufficiency were hastening her, as they had hastened other States (and as they may in the end bring ours) to utter and irretrievable ruin. Another point for the scene-painter to bear in mind is that the streets and open places were usually paved with red brick arranged in simple patterns, and most commonly in that known as herring-bone. Such, Mr. LONSDALE tells me, was the original pavement under the arches of the Ducal Palace which he happened to see some few years ago, when excavation was being made round the foundations of one of the pillars.

* Milan, A.D. 1558.

† A play called the "Venetian Comedy" was acted in 1594.

* They are sold at a very low rate in a shop in Endell Street.

A third very important thing to remember in connection with the Venice of the merchant ANTONIO is the universality of *applied* colour as distinguished from the parti-coloured *construction* adopted by the rest of Western Europe. The coloured marble pattern on the Ducal Palace was by no means a solitary example; indeed there is still to be seen on another building, in the Grand Canal a pattern very like it and the Ca' d'Oro's red-and-white square marble diaper was at one time far from being singular. In houses of less pretension the stucco was painted in two or three simple earth colours, with small diapers, one of these consisting of a series of quatrefoils enclosing circles with angels between the quatrefoils is figured in the second volume of Mr. RUSKIN'S "Stones of Venice." Set into this field of softened and almost neutral-toned colour came the glistening white marble shafts and arches of the windows, each window or group of windows framed by an edging of marble. Gold was applied to such details as the cusps, the carving, and the edges of the mouldings; bright bits of colour nestled in the background of the sunk work, and not unfrequently medallions of porphyry and serpentine enriched the plain surfaces between the arch-line and the rectangular frame. In the smaller houses we may note that one of a group of window openings is sometimes larger than the others in the same group, and was probably so made in order to afford an entry to the balcony of convenient size.

But perhaps the most characteristic element of the domestic architecture of Venice—one too which can be traced through all styles, round-arched or pointed—is the *plan* of the façade, which, in the vast majority of cases, was arranged with a centre and two side wings, not formed by projections, but by the centre being of such open construction as results from the use of arcades or groups of windows one over the other, and the wings built as walls pierced by single or detached windows. It should be remembered also that the old glass was usually leaded-up in circles, and other plain geometric forms, and set in wood frames, with one or more cross bars fixed behind the stonework and clear of the shafts. Again the old balconies had nearly always animals or finials carved on the top of the projecting angles. Their boundaries, too, were by no means governed by the windows they served, for we find them extending sometimes across the entire group, sometimes to a portion of the group, sometimes only to the side openings, and sometimes only to the central one.

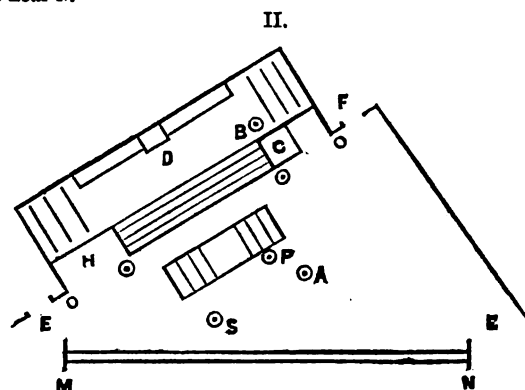
Having said this much, I would venture to select for the street scene, in the diagram No. 1, the following buildings as guides to the blocks indicated by the letters A, F, G, and H:—

- a. The Palazzo Badoer. (Painted stucco on walls.)
- F. The Palazzo Giustiniani, the Fondaco de' Turchi, the Ca' d'Oro. (Showing three modes of surface ornamentation—stucco, white marble with low reliefs, and coloured marble diaper.)
- G. The Library of S. MARK (new white stone) or the Prison.
- H. The semi-Byzantine house in the Corte del Remer (marble and brick veneered) or the work at Murano and Torcello.

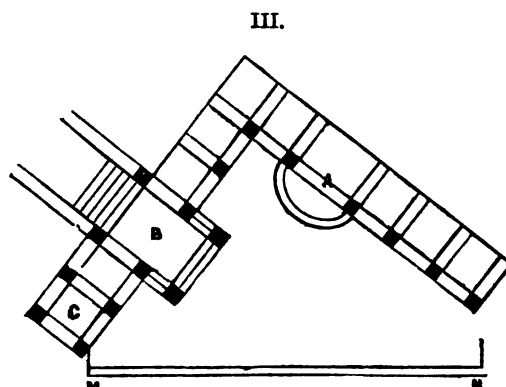
The next Scene I have to note is the Court of Justice. The text shows that the case of SHYLOCK v. ANTONIO was one that had awakened very unusual interest even among the highest; but if the text had said nothing about the DOGE and the Magnificoes using their influence before the trial, if we had not known that BASSANTO was a nobleman, ANTONIO a princely merchant in a city of merchants, we should still be bound to suppose that a vast public excitement must have been raised throughout the Republic from the strange nature of the horribly revengeful suit instituted by the plaintiff. Nor was this a criminal proceeding or State trial that would be likely to be heard in a private or even in a quasi-private manner. Although it might have involved a life, the case was after all nothing more than a civil action arising out of a breach of contract wherein the penalty clause was manifestly an unusual and as it happened an illegal one—a sort of thing with which nearly every modern architect is more or less familiar. Now of the various public rooms in the Palace it seems to me that the most likely place to be selected for the hearing of such a *cause célèbre* would be the largest apartment available, for we may be quite sure that not only TUBAL and CHUS, but many other rich Jews, would gather round SHYLOCK in (as they thought) his day of triumph, whilst ANTONIO'S losses and imminent peril must have excited not only the commiseration of the State, but of every noble-minded Christian in Venice. It is because of this that I would select as the real Scene of the fourth Act the *Sala del Maggior Consiglio*, but as this hall measures no less than 154 by 74 feet, it is next to impossible to represent it in anything like the dignity of its true size on any stage other than exceptionally large ones. Nor can we well give a fragment of it by following the course suggested for the treatment of Westminster Abbey in the first scene of Henry VI., inasmuch as the DOGE and the Magnificoes would necessarily have their seats arranged centrally in the 74 feet. Failing this room we must have recourse to the *Sala dello Scrutinio*—a fairly large room of the Sansovino series, decorated by the paintings of TINTORETTO, MARCO VECHELLO, and some others of a date later than our story. Good photographs of the principal rooms in the ducal palace may be bought at a cheap rate, so that the youngest scene-painter need not err in the general architectural character of this scene.

The setting of it on the stage is altogether another question, and is one of the most difficult problems among the scenic ques-

tions of SHAKSPEARE'S plays. We have to maintain the dignity of the strict court of Venice, to find room not only for the DOGE and the Magnificoes, but for officials who might attend as senators, magistrates, doctors of law, the assessor-general, &c.; we have to provide for a crowd of lawyers—some of them young men—so that PORTIA may not appear too singular: we must not forget the question "Which is the merchant here and which the Jew?" showing that both plaintiff and defendant were absorbed in the two opposing crowds of Christians and Israelites; and we must remember, that although the secret tribunal of the Council of Ten had its fearful power somewhat curtailed in 1582, its servants were still to be seen watching and listening wherever two or three were gathered together. Considering all the circumstances of the case I again propose a diagonal set for this scene, as shown in diagram II., where M N represents the proscenium, D the raised platform for the DOGE, Magnificoes, &c., B the seat for BASSANTO among the nobles, S and A positions of plaintiff and defendant, P PORTIA, F official entrance, E E public entrances, C seat for the assessor-general, O O halberdiers, and H group of esquires of the DOGE. Now it is, I hope, manifest that having placed the officials and dignitaries, an enormous concourse of the general public can easily be indicated by very small (if well organised) groups near the entrances E E, especially at that near N.



The fittings should be of sumptuous carved wood almost covered with gilding; the chairs of the same description and of the peculiarly Venetian form then used, the seat being fastened into planks, one in front, the other behind, and the back formed of a third plank all sufficiently thick to allow of carving in high relief. The table for the lawyers might have a rich cover of crimson velvet reaching to the floor, but cut up at the angles and fastened by a number of long loops of gold lace or braid, as may be seen in pictures of the time. On the table we might see the folios of the statutes of Venice with their magnificent binding and gilded clasps; inkstands of bronze, chased and moulded of circular form and of about the size of the common lead office-inkstand of the present day; the portfolios of the lawyers and "learned doctors," 12 to 18 inches square, beautifully worked in leather, and, at least, one of the characteristic damascened candlesticks of the period (for if SHYLOCK had signed in the Court it would have been necessary also to have sealed). The deed or bond, the scales, the knife, the letter from old BELLARIO, and the coffer containing PORTIA'S 9,000 ducats, are little things about which there need never be any mistake. The bond would be on a small strip of vellum, well creased and tearable at the creases, the scales were just the same as they are now, SHYLOCK, being a merchant in jewels and precious metals, would have probably brought his own private scales; the knife was doubtless the glaive-shaped instrument then common: the letter was folded longwise, with the direction in one corner, tied with silk and sealed; the coffer might be like any one of the many sixteenth century Italian coffers in the Kensington Museum, and the halberds may be found at South Kensington and in pictures by VERONESE in our National Gallery.



In the house at Belmont we have to consider only the state room or hall in which the caskets were deposited. Referring to what I have already said as to its general arrangement for the purpose of

getting all the interior scenes at Belmont in one set-scene, and assuming, as we have every right to assume, that PORTIA was descended from noble and rich ancestors, and that her house would naturally be one among the works of the first century of the revival, we may fairly take counsel with such artists as D. GHIRLANDAJO (1451-1495) and BAZZI (1480-1549), or such architects as MICHELLOZZO (1402-1470) or GIULIO ROMANO (1492-1546) in designing or arranging this room. On this basis I would suggest for this scene an architectural arrangement somewhat like that indicated in Diagram III., where MN is the proscenium, A the platform for the caskets, B an ascending staircase, and C a corridor (open to the garden if required). The arches of the arcade round the room may be hung with curtains, having large patterns in broad stripes, like those preserved in the Kensington Museum, and above the main arcade may be a smaller open arcade, as shown in one of BAZZI's paintings, published by the Arundel Society. For the decorations, and the colour of them, we have abundant material at our disposal.

In looking at the furniture of the time we shall find that the candles or lights were held in sconces of *repoussé* metal, brackets and lamps suspended from the ceiling. Chinese porcelain vases for flowers, some carved and gilded chests, a table and chairs of the same description, cabinets, Limoges enamels, mirrors, majolica, lapis lazuli cupe, crystals, Eastern rugs, a movable clock, Murano glasses, antique statues, and a parrot or some love-birds in a cage, or on a stand, may be brought in to help clothe the scene. Among the musical instruments we may have the violin, tambourine, harp, and theorbo, all illustrated in POLIPHILUS, and some specimens of which may be seen at South Kensington. Nor should we forget whilst on the subject of music that *madrigals* would be as familiar in the household at Belmont as they were in most of the Elizabethan houses. LUCA MARENZIO and GIO. CROCE wrote their charming madrigal music in the second half of the sixteenth century: PALESTRINA wrote in 1590 and GIRONIMO CONVERSO in 1580. When the madrigals of SHAKSPEARE'S time can be got at NOVELLO'S for 2d. each, there can be no possible excuse if the characteristic music of the age is omitted when the text or stage business suggests its introduction.

But whether a theatrical manager does or does not attend to these things; whether he wishes to do right, or whether, owing to the profound ignorance respecting the manners, customs, and general surroundings of any past time which distinguishes the modern stage and its "patrons," he thinks it a matter of very small moment, one thing he must do, and that is, provide three caskets. Now, for these things the style which was the most costly and the most sumptuous in the lifetime of Lady PORTIA'S father was that introduced from Damascus, and which has always gone under the name of *damsascened work*. Iron or steel caskets, most elaborately wrought with sharp mouldings and carvings, were covered on the plain surfaces with rich ornament pressed in of gold or silver, and in the examples before us the sides of the caskets might be panelled, and in each panel *repoussé* work of gold and silver for two of them, and cast work of lead for the third. It is true that armour had been damascened in the fifteenth century, but it was not until the sixteenth century that anything like high perfection was attained. The damascened iron mirror at Kensington (bought for 1,281l.) was manufactured at Milan about 1560 for the royal family of Savoy, and it seems to me quite unnecessary to adduce any further instance in proof of the very high position maintained by the damascene artists. Fair PORTIA'S counterfeit that BASSANIO takes from the leaden casket would be probably enclosed in a flat wide frame of the same style of art, or of walnut inlaid with rich patterns of ivory, mother-of-pearl, lapis lazuli, &c.; or it might be of soft wood (willow, lime, or sycamore) elaborately carved and gilded. The table might be covered with velvet hanging down on two sides, some light Eastern fabric laid over the caskets, and the curtains made of silver or gold cloth suspended from a canopy of the same material, with cut valence fringe and tassels.

The fifth Act, and indeed the whole episode of the rings, might very well be omitted in modern stage representation. The banter is of a kind which was not unusual in Elizabethan society, but which now either falls flat from a want of that kind of perception which need never be supplied or gives rise to thoughts not perhaps even coarse when the state of society allows them free utterance, but bad and utterly so when it is thought proper to cover them up. Still, if the last act be performed, I would refer the scenic-artist to the admirable engravings of Italian gardens with their fountains, covered alleys, terraces, arcades, &c., to be found in the work on perspective by FAIRBANKS, published in 1563.

The *Costumes of the Merchant of Venice* I reserve for another article.

The Architect of the Palace of Versailles is actively engaged in drawing up plans for providing accommodation for the two Chambers, and it is believed that his designs will shortly be submitted to the Council of Ministers. It is expected that the works will necessitate a delay of at least six or eight months.

The Duke of Grafton's House in Piccadilly is not, as reported, to be a whist club, but is to be converted, under the able auspices of Mr. Dudley, architect, into a new home for the "Wanderers."

ROYAL ENGINEER PROFESSIONAL PAPERS—III.

THE first of the two papers which remain for us to notice this week, is a "Description of the Operation of Straightening the Brick Chimney Shaft of the Gas Works at the Royal Arsenal, Woolwich," being a joint contribution from Lieut.-Col. Scratchley, R.E. and Lieut. Watson, R.E.

It appears that this chimney, which is 100 feet high, was erected in 1860, on a bed of blue lias lime concrete, 30 feet square and 8 feet deep. The concrete rested on a thick bed of clay, below which, however, lay a bed of peat, though at such a depth that it was thought at the time that by not going more than 16 feet down a sufficient thickness of clay would be left to carry the weight (amounting to about 720 tons) without any fear of yielding. No piling was, consequently, resorted to, but the concrete was laid in, as usual, on a level bed. It is supposed that the inclination of the chimney from the perpendicular was due to the yielding of the peat bed, and, possibly, may have been aggravated by the cracking of the concrete foundation. For our own part we are inclined to think that the movement was due entirely to the unequal yielding of the peat or clay, or both combined, and that, if examined, the concrete would be found uncracked.

Soon after the chimney was built it was observed to be gradually inclining from the perpendicular. In December 1871 the top was leaning over 19 inches to the south and 24½ inches to the west. In the middle of 1873 it was found to be leaning over 33½ inches to the south and 42½ inches to the west. The movement did not appear to be uniform, but had increased more rapidly from 1871 to 1873. Although it had not reached its limit of safety, which was considered to be 72 inches out of the perpendicular, it was deemed advisable to do something at once, as no doubt its visible inclination would cause a certain amount of uneasiness to those who had to work in the immediate vicinity. There were only two courses open, namely, to pull it down and to rebuild it *de novo*, or to bring it back to the perpendicular; and it was decided to attempt the latter, as the least expensive course; accordingly, Mr. Ralph Hall, the well known "Steeple Jack," of Glasgow, was called in to operate upon the chimney.

The plan pursued was, at the top of the chimney base or about 10 feet from the ground, to remove two courses of the brickwork, in successive pieces, two bricks in width round three sides of the square shaft, replacing each piece with thinner bricks laid with thick joints of sand loosely bound together with a little lime; the bricks getting thinner, and the joints thicker, the further the work receded from the side about which it was desired that the chimney should rotate in settling down to the perpendicular. The weight of the shaft above this part was about 194 tons, and the thickness of the brickwork was 2½ bricks, increasing at the angles to three bricks, exclusive of the firebrick lining, which, as it was bulging away from the rest of the brickwork, had to be removed. This operation was performed by Mr. Hall and one assistant in about eight days from a scaffold erected round the shaft formed of single planks supported by poles. When this had been completed, the sand joints were gradually removed by means of a cross cut saw about one-sixteenth of an inch thick, provided with coarse teeth, worked along the joints by Mr. Hall on the outside and his assistant inside the shaft. As the sand was removed, the chimney gradually settled down. The bricks first put in were then removed as before, and thinner ones inserted with thick sand joints; after which sand only was used for filling up, and after all had been removed, the shaft was found to be vertical on the south side, and only leaning over 4 inches on the west side. The work was then completed—having taken three weeks in all—by replacing the remaining bricks and tiles with bricks in cement, cut to fit the wedge-shaped opening formed in the brickwork. The cost amounted to 504l., or only about one-seventh of the estimated sum which would have been required for pulling down and rebuilding the chimney.

Although the money has been well spent, we are inclined to think that it has only staved off the day when the chimney will have to come down. If the foundations are yielding from the compressing of the peat below, the fact of the shaft being nearly perpendicular now will not stop the unequal settlement which began in spite of its perfect perpendicularity when first built; at the same time it is just possible that the limit of compression due to the weight of the shaft may have been arrived at, but this will soon be ascertained if a few careful observations are made, from time to time, to see whether any movement is going on.

The last, but by no means the least, important Paper is entitled "Notes on Portland Cement Concrete," by Major Maquay, R.E., who states his object to be to give "some practical rules for the manipulation of Portland cement concrete, in the construction of permanent fortifications, and the erection of habitable buildings."

In order to get the most strength out of concrete, we are reminded that a certain amount of porosity in the materials to be mixed with the cement is desirable, Kentish rag, Portland stone, hard bricks, burnt clay ballast, and granite being for that reason preferable to flints, smooth gravel, &c.; moreover, all the materials should be quite clean and free from any trace of earthy matter. The proportions of the materials will vary considerably, according to the purpose for which the concrete is required. Roughly speaking, we are told that a proportion of one part of cement, by bulk, with eight parts of broken stone and sand, will be found suitable for most purposes, such as piers, walls, floors, and revetments, the sand being in the proportion of one-third of the bulk of the broken stone; whilst, in foundations and coverings over arches, from ten to twelve of broken stone, or similar material, may be mixed with the cement. The term "floors" we understand to mean concrete paving laid on the ground, since for self-supporting upper floors about one-fourth of cement would be a safer proportion. With regard to the sand, experiments have shown that a considerable addition of sand, though it may give a compactness to the mass, tends rather to diminish the strength of the concrete, doubtless owing to the increased amount of surfaces exposed to the cement, which is consequently too thinly scattered through the body of the material.

A very necessary caution is given about laying concrete under water, namely, that at least ½ to ¾ of cement should be used, in order to make up

for what may be washed out by the tide or currents, before the concrete has set sufficiently hard to be proof against the abrasive action of the water. As to the amount of water to be used in mixing the concrete, this will vary with the temperature of the atmosphere and the nature of the materials, but the following is laid down as a good practical guide:—"The water added should only be sufficient to moisten the ingredients, and must not be allowed to flow over the surface of the mixing board or to run down the sides of the heap that is being mixed, for if it does flow down it washes away the cement and fine particles of sand from the surface of the broken stone or other coarser materials, and impoverishes the concrete."

Passing from the materials to the mode of mixing them, the two methods of mixing by hand and by machinery are carefully contrasted, the result being that machine mixing is declared to be more uniform, rapid, and economical than hand mixing, where large quantities of concrete have to be turned out. For hand mixing a wooden floor, about 8 feet wide and 15 feet long, is recommended, and a wooden box measure, 5 feet 6 inches square by 1 foot 4 inches deep, containing about 1½ yards; such a measure filled up flush with ballast and then heaped with 4 bushels (two 2-bushel sacks) of cement will give a mixture of 8 to 1 cement; and, if the measure is filled up 12 inches deep with broken stone, and the remaining 4 inches with sand, will turn out 1½ yards of concrete. The measure should be filled at one end of the mixing floor, and when lifted off the heap the dry materials should be shovelled over by two men to the opposite end of the floor, where two other men should shovel over about a barrow load at a time, while a third man sprinkles it with water from a can fitted with a fine rose. It is then ready to be shovelled into barrows or any other receptacle, and conveyed where required.

For machine mixing the ordinary revolving cylinder used by contractors is not recommended, on account of the difficulty in regulating the proper quantity of water, owing to the operation of mixing not being exposed to view. In this machine the materials are measured into a hopper, through which they pass into the upper end of a hollow cylinder—the one alluded to being 3 feet in diameter, 12 or 14 feet long, and set at an angle of 6 or 8 degrees to the horizon—which is made to revolve from sixteen to twenty times per minute, mixing them and passing them out at the lower end. Instead of this form of mixer, preference is, we think very justly, given to a fixed semi-cylindrical trough, with a revolving shaft fitted with blades set to a pitch, working in it, by means of which the materials are mixed and carried forward at the same time, a slight inclination being given to the trough, and the supply of water regulated by a cock and sparge pipe. For ensuring a continuous supply, a double hopper is recommended at the head of the trough, to be used alternately for measuring the proportions of materials and feeding the mixer. This mixer is also said to deliver the concrete into barrows or trucks with greater ease than the closed drum.

Where stone crushers are used in preparing the stuff for concrete, they can be driven by the same engine as the mixer, and be made to deliver the broken stone into the feed hopper. Sketch plans of two mixing stations are given by the author: one where the site is level, and the work close by, of an eight-horse power portable engine drives a breaker, a mixer, and an elevator, and turns out five yards of concrete per hour; in the other a twelve-horse power engine is employed in winding up material, crushing the stone, and mixing about eight yards of concrete per hour.

With regard to laying concrete, we are told that it is essential to work it in level beds, for fear of the water finding an easy way out and carrying with it the fine cement. We do not, however, think that this could occur unless the concrete was in much too moist a state when placed in position, and the same remark applies to the precaution suggested a little further on of stopping up all joints, in sheeting or centering, with equal proportions of whitening and plaster of Paris, in order to prevent the escape of the finer particles. The necessity for wetting surfaces to which fresh concrete is desired to adhere, and of seeing that they are not in too smooth a condition, is dwelt on in a passage in which we find it remarked that "the beds or joints of different batches of concrete are always the weak parts, where they have not been carefully attended to, and these joints, where defective, can be opened by iron wedges or feathers, just like veins in rocks." Where packing is used, as in foundations, pier walls, &c., the lumps of stone or brick should be rough, clean, and well wetted, and may be thrown in close or not, according to the nature of the work, but not too near the faces, the concrete being rammed round them with an iron punner, and their edges left projecting up so as to give a good hold to the next layer of concrete. In foundations about two-thirds of the whole mass is not considered too much packing, whilst it greatly reduces the cost of the work.

In forming concrete retaining walls, the sheeting used along the face, if of 3-inch planks, should, we are told, be supported by guides or struts at intervals of not less than 7 feet, as at longer distances apart the planks will spring and bulge out with the weight of the concrete and the ramming. A spade or trowel is directed to be worked along the inside of the sheeting, if a smooth face is desired. This brings the finer particles to the surface; but if a good non-porous face is wanted, as for the walls of tanks and reservoirs, we should use thin boards, placed up against the sheeting, withdrawing them directly the concrete has set sufficiently to stand clear of the sheeting; the void should then be filled in with liquid cement, mortar, or grout, and worked down with a spade or trowel. A drawing is given of a movable stage, running on a tramway, which has been found very useful in forming escarp walls, since it provides mixing platforms at different levels, and at the same time a shifting face mould for the wall, which, if the concrete is mixed without too much water, can be moved forward about every twelve hours.

The method of forming and fixing panelling for making large sea walls, as well as the ordinary walls of buildings, is next described, but there being nothing peculiar in the system adopted we will merely notice a useful caution, with respect to not using a mortar richer in cement than the concrete, for stopping any open spaces between the bottom edges of the panels and the concrete already executed, otherwise the face of the work will be marked with lines of a different colour. For finishing the surfaces

of the walls a water brush and wooden float, applied directly after the removal of the panels, is recommended; but on no account should rendering be allowed, as it gives a patchy appearance, and is very liable to peel off. In the case of sea walls exposed to great attrition from boulders and shingle, it is advised that the base of the wall should be left for some time without removing the panelling, in order to give time to the cement to set hard; or to face them with hard stone, or with large blocks of concrete made beforehand and left to harden.

Amongst the figures given to illustrate the text are some showing how hollow concrete walls and arches may be built, door frames secured to concrete walls, and moulded jambs, sills, and lintels adapted to a brick building with hollow walls. With regard to arches, we are reminded that arches or domes of concrete can be made over solid cores, without any centering or lagging, it being sufficient to form a mould of earth and plaster it over with weak mortar or stiff clay. We would also draw attention to the following:—"It is not necessary with concrete to adhere to the circular or elliptical form for arches over chambers and passages, for in spaces not exceeding 10 feet in width a flat covering is more easily and economically made." The italics in the above sentence are ours. A good Portland cement concrete floor 10 feet square, and of a uniform thickness of 6 inches, will stand anything within reason; it would be quite safe if crowded with people jumping on it, of this we have ample proof; but those who undertake such work should know what good Portland cement is, and how to use it. For instance, even in laying the concrete the author points out that great care must be taken to complete the work each day from springing to springing, if an arch, or from bearing to bearing, if flat, racking back and leaving rough the end of the completed part, in order to leave a good connection for the next day's work.

Floors and roofs of concrete are next touched upon, the chief point being that they should be finished off by working the surface smooth without adding a distinct coating, which is always liable to crack and peel off. The rounding or chamfering off of all sharp edges in concrete work is advised, either by filling up the angles of the casing or moulds, for receiving the concrete, with fillets of wood, or by the simpler plan of running them in with plaster of Paris and whitening.

The laying of concrete under water is the last operation referred to by Major Maquay, the main point to remember being that "the concrete should not be allowed to pass through the water in the operation of laying it." It is mostly lowered down through shoots of wood, iron, or even canvas, and in a tideway each day's work should be covered with old sacks, &c., loaded with stones, to prevent the cement being washed out of the concrete by the scour of the tides.

We need not touch upon the Cork Harbour specification for the supply, or the rules observed in receiving, testing, and storing consignments of Portland cement, as these matters have already been very fully dealt with in our columns last year; but, as much has been heard about concrete cracking from alterations of temperature, we will close our notice of Major Maquay's Paper by quoting his experience on that subject.

"Experiments have not been made with the special object of ascertaining whether Portland cement concrete expands or contracts to any degree in setting, or from changes in temperature; but works constructed of this material, both of a massive and slight nature, have been closely watched to detect any change of form or bulk, and no trace of expansion or contraction can be observed."

Carefully collected evidence on this point, derived from observation as well as practical experience, would be of much interest. We have noticed many concrete walls with fine cracks at very regular intervals, mostly at about every 9 feet; the cause is by no means clear, but the subject is worthy of investigation. Any of our readers who are visiting Brighton and other places where concrete has been largely used for long lengths of walling, might gather some useful information, to which we would, at any time, gladly throw open our columns.

PROFESSOR BARRY'S LECTURES ON ARCHITECTURE.—III.

DELIVERED AT THE ROYAL ACADEMY, ON MARCH 8.

IN my last lecture I asked you to dwell with me on some of the most prominent passages in the life of the great Florentine, Michael Angelo. We left him, if you remember, at the Court of Pope Paul III., an ardent admirer of his genius, if a somewhat severe taskmaster of his energies.

I propose to-night to consider Michael Angelo as an architect. We have seen how his fame had grown as a sculptor and a painter, and we know how decided were his views as to the necessary combination of the three arts. It was reserved for the old age of this splendid veteran to furnish a practical commentary on his artistic convictions.

It was Michael Angelo's lot to have greatness thrust upon him. He delighted in the title of sculptor. Sculpture was his first choice, and by it he gained his earliest laurels. When the painting of the Sistine Chapel was pressed upon him, he resisted. He declared he was not accustomed to painting. Indeed, he seems to have been almost pleased when he found an efflorescence exuding from the walls, which threatened to destroy his work. "See," said he to the Pope, "what is happening; I told you I was not a painter." In like manner he did not seek architecture. When the office of architect to St. Peter's was offered to him, it was only accepted with reluctance. Although an admirer of architecture, Michael Angelo was not willing to accept the heavy responsibilities of an architect, and but for the urgent entreaties of his friend and sovereign, would have declined the task. When, at last, he was prevailed upon to consent, he made the condition that he would receive no salary, and had a clause inserted in the deed of appointment declaring that he performed his office for "the love of God."

There was, I think, good reason for the reluctance of the artist. Accustomed to freedom of idea and execution, he was to learn under what difficult conditions architects have to work. No form of art is so much fettered. Circumstances of time and place, the amount of funds available,

the parsimony, whims, and interference of employers, affect the plans of the architect to an extent unknown to the painter and the sculptor. Arbitrary rules of fashion regulate the public taste, and seek to make the architect their slave; so that it may almost be said—at least in modern times—that no important building is ever executed, for which the architect is fully responsible.

Michael Angelo was now to experience all these difficulties, and he often wished, we may be sure, for the lost freedom of his earlier life. He had met with an accident from a fall on his scaffolding while painting the Pope's Chapel, and his increasing infirmities had led him to decline further commissions in sculpture, when he was appointed architect to St. Peter's in 1546, in the seventy-second year of his age. Notwithstanding the advance of age, the period through which Michael Angelo had just been passing was, perhaps, the brightest in the life of the great artist. His last years at Florence had been full of bitterness and gloom. We have seen how he imperilled life and health by his labours in the Laurentian Sacristy, and how, before his final departure, he seemed well-nigh broken-hearted.

At Rome, on the contrary, he seems to have recovered both health and strength. His fame was recognised by the Pope, and his reputation gave him a pre-eminence which none could now dispute. Domestic sorrow, indeed, fell upon him, as it does upon all, for at this time he lost his father and brother, to whom, in spite of some past misunderstandings, he was sincerely attached; but, in spite of these and other troubles Michael Angelo was now probably happier than at any previous epoch of his career.

His proud nature sought no friendships. He says, in one of his letters, "I have no friends; I need none, and wish to have none." Almost terrible to us is this picture of the solitary old man, alone in his conceptions of the supernatural and the sublime, as we see them depicted in the figures of the Sibyls, or in the woes of the condemned, in the awful representation of the *Last Judgment*.

Accustomed to misrepresentation, and to the petty accusations of little men, he treated them with the contempt they deserved. Such was the mode in which he dealt with Pietro Aretino, who assailed the treatment of the *Last Judgment* in a spirit of censorious prudery. This man, shameless, venal, and intolerably conceited, did indeed succeed in troubling the mind of the great master by his criticisms and insinuations, as an insect may vex a noble lion; but, after a time, Michael Angelo treated him with the disdain which he deserved.

In spite of the loneliness of his self-sought solitude, there was, however, one friendship which Michael Angelo admitted, and to which he clung.

If you will think for a moment of the characteristics of his works, you will form an idea of the character of the man. You will find little in them of the softer influences. The Sibyls are mysterious beings, with unknown capacities for good or evil; and in the *Last Judgment* the woe of the wicked is the prevailing theme.

Art had been his sole mistress, and in it he had sought power, grandeur, and sublimity, rather than the refinements of beauty.

He was now to experience, for the first time, something of the charm which can be exercised by female influence, combined in this case with high rank, refined intellect, and personal attractions. Had he yielded to some such influence in earlier life, his works might possibly have gained in grace, without losing in genius, but it was not until the sixty-fourth year of his age that Michael Angelo commenced his friendship for Vittoria Colonna, a widow of forty-eight.

I have said friendship, for such indeed it was; a friendship of heart and soul; a fellowship of kindred minds; any softer feelings, if they existed, were repressed, and it was only when death had robbed the lone old man of his happiness in 1547, that in a parting sonnet he allowed himself to expatiate on the earthly beauty now lost to him for ever.

The lady was an accomplished member of one of the noblest of Italian families, and of a deeply religious cast of mind. Her influence on Michael Angelo was great, and he has recorded his obligation in verse, to one who had taught him how "to tread, by fairest paths, the way to heaven."

It was now a time of religious speculation. Luther's preaching had aroused echoes, even under the shadow of the Vatican, and many young and ardent natures were inquiring, like the Roman governor of old, "What is truth?"

Vittoria Colonna seems to have been the hope and leader of one of the reforming coteries of the period, for not long afterwards a young Florentine was burned at the stake, one of his alleged crimes being that he had once belonged to the circle of Vittoria Colonna.

After a period of doubt and free inquiry, the Vatican at last put forth its power, and the Inquisition, with all its horrors, was established in Rome just as Michael Angelo had completed *The Last Judgment*. This important step was taken about 1542, and Vittoria Colonna, warned of what was impending, fled to Viterbo, leaving a gap, incapable of being filled, in the eventide of Michael Angelo's life.

Ruin fell on the Colonnas. Too great for the subjects of a jealous autocracy, they became obnoxious to the Pope, who determined to break their power, and when, six years afterwards, Vittoria was able once more to visit Rome, her refined and elevated spirit was broken down by the ruin of her family. She had made her peace with the authorities; but the old life could be no more.

Sad must have been her meeting with Michael Angelo. She had suffered much from illness and anxiety. Her family and friends were scattered, and she was left alone and unprotected. She withdrew into a convent, and gave herself to works of charity and piety, until death came to her, as a liberator, in 1547.

There is a portrait of this remarkable lady. It was once ascribed, as is now believed erroneously, to Michael Angelo. Some, however, think that the composition and drawing may have been by the master, and the colouring by a pupil. It is at least probable that the work was suggested or inspired by Michael Angelo, and represented his favourite and friend as he wished to see her. It represents an aged woman. A widow's veil covers head and figure. A tall and upright form, as may be seen, though she is sitting in a chair, distinguished the noble lady. An open book on her lap indicates her character. I think this portrait of great interest, if

only as indicating the nature of Michael Angelo's love and admiration, pure from any sensual or commonplace alloy.

Michael Angelo lost his beloved friend a year after his appointment to St. Peter's, and had therefore to prosecute that great and anxious work uncheered by her affection and sympathy.

We know that in spite of his modest reluctance to assume the title of architect, he was, in fact, no novice in the art, and had already given proof of his skill. The Laurentian Library at Florence, carried out at the same time as the statuary in the Sacristy, is a good specimen of his style, although, from its having been completed by other hands, it does not present the effect he would probably have produced. While at Florence he is said to have also designed the windows of the Palazzo Riccardi, and he added to the Farnese Palace at Rome its well-known and beautiful cornice.

The palaces of the Capitol were likewise his work. They form three sides of a square, and are approached by a handsome flight of steps, familiar to all visitors to Rome. They bear the impress of the style of Michael Angelo, bold of conception, vigorous of execution, but somewhat wanting grace, and refinement of detail.

Another of his architectural tasks was the conversion of one of the halls of the Baths of Diocletian, into the Church of Sta. Maria degli Angeli. This he did by adding transepts, in the middle of the length of the hall, which thus assumed the shape of a Greek cross. Subsequent alterations have unfortunately marred the simplicity of this plan, which was a great favourite with Michael Angelo.

Various designs are known to have been proposed by him, such as those for the Porta Pia, and the Porta del Popolo, at Rome, but they were never carried out; and the ascription to him of the design for the front of the Villa Medici is somewhat doubtful.

We have seen that his skill in fortification was early called into play for the protection of his native city, and the reputation which he thus gained induced Paul III. to consult him afterwards on the subject of the fortifications of Rome. These works were projected under the advice of Antonio San Gallo, brother of the Giuliano San Gallo, who was one of the earliest friends of Michael Angelo, and who is not to be confounded with the former.

Michael Angelo's advice, which was opposed to that of San Gallo, prevailed, and this was one of the circumstances which rankled in the mind of the latter, and embittered his hostility to Michael Angelo, of which we shall have to speak again hereafter.

Among the unexecuted designs to which reference has already been made, I ought to mention one for a church which was to have been erected at Florence, and dedicated to St. John the Baptist. Unfortunately, nothing came of this proposal, which we may well regret, as Michael Angelo is reported to have said of it that, "if built, nothing would be found to surpass it."

In all his compositions, Michael Angelo showed his independent spirit, spurning rules, and introducing innovations, in defiance of classical practice. There is always in them a boldness of grasp, and grandeur of style. These are the attributes of genius, and not to be achieved by lesser men, who, while they do well to shun the faults of Michael Angelo, do better to study the secret of his strength.

It is much to be regretted that the architectural works of Michael Angelo are not more numerous and important; but his great work at St. Peter's was sufficient to immortalise him, and to this we will now turn our attention.

The present Basilica of St. Peter's is a successor to a more ancient building, of the same name, said to have been erected by Constantine, and consecrated A.D. 324. The dimensions were large, 435 feet by 248 feet, and the architecture was of the well-known Byzantine type. It had four rows of columns, dividing the interior of the church into five parts—of nave, and double aisles on either side. Many of these columns were of the rarest marble, and Michael Angelo subsequently made it a subject of bitter complaint against Bramante, that he had not preserved some of them for the adornment of the new structure.

The plan was converted into a cross by transepts at the end of the nave, with a semicircular tribune, as a centre feature, facing the nave. The roof was covered with gilt bronze from the temple of Venus at Rome, and other ancient buildings were laid under contribution to add to its richness and beauty.

The Basilica was approached by steps 145 feet wide, and disposed in five flights. In front of the church was an atrium, surrounded by a cloister, and the whole building, with its appurtenances, occupied a space of about 800 feet by 260 feet.

This church had been the favourite place of worship for the bishops of Rome for upwards of fourteen centuries. It had suffered from fire, from the violence of barbarians, and from decay, but it had been repaired by the Popes, and in the fourteenth century Giotto had contributed to its decoration.

Pope Nicholas V. had plans prepared, as early as 1447, for a complete rebuilding, but nothing was seriously attempted, until Julius II. was led, as we shall see, by personal causes, to give a new impetus to the proposal.

When Michael Angelo was called to Rome by the Pope in 1504, the first task laid upon him was the preparation of designs for the mausoleum, of which mention was made in my last lecture.

The personal vanity of the Pope dictated that his monument should be no ordinary structure, and he resolved that a place in the old Basilica should be prepared for its reception. It soon appeared, however, that the ideas of the Pope were on too vast a scale to be consistent with this arrangement, for although the whole size of the church was large, the dimensions of its parts were moderate, while the scale of the mausoleum was to be colossal.

From the discussions which arose from this circumstance, Julius conceived the notion of replacing the ancient basilica by a new structure, as had indeed been vaguely contemplated by his predecessor, Nicholas.

It may now be interesting to inquire what the mausoleum was to be

like, which was the cause of so great a conception, and led to so much trouble and wasted energy of the artist. We may therefore refer for a moment to Vasari's description of the design.

It was, he says, to be isolated, having a passage round it, for greater magnificence of effect. The dimensions were to be 18 braccia (36 feet) on two sides, and 12 braccia (24 feet) on the other two sides, the proportions being, therefore, a square and a half on plan. A range of niches occupied the sides, and the cornice was to be supported by statues, partly clothed, after the Grecian manner of Caryatides. To each of these figures a captive was bound, intended to signify the provinces subjugated by Pope Julius, and brought by him into the obedience of the Apostolic Church. There were to be other statues, also bound, representing the liberal arts, and including painting, sculpture, and architecture, all paralysed and hampered by the death of the Pope.

Above the cornice, there were to be eight colossal statues of prophets, apostles, and virtues, including those of Moses and St. Paul. Forty statues, in all, were to have adorned the monument, which was to have been further enriched by bas-reliefs of marble and bronze.

The substructure was to be 13 feet in height, and this was to be surmounted by a light marble baldacchino, beneath which two angels guarded the sarcophagus of Julius, one in an attitude of grief, and the other pointing to heaven.

Such, we are told, was the design of this ambitious work. The description is, I believe, in accordance with a drawing of Michael Angelo, which I have not seen, but which is said to be preserved, with others of his sketches, in the Florentine Gallery. Michael Angelo set to work on it with zeal, and repaired to Carrara to seek the marble, leaving the Pope to meditate on his plans for the new church.

The Pope first employed Giuliano San Gallo to prepare designs for the latter, but, for some reason, he was almost immediately superseded by Bramante, who deserves to be considered the first architect of St. Peter's. The new church was to cover the site of the ancient Basilica, but was to be greater in extent. The length was to be increased from 435 feet to 620 feet, and the breadth from 248 feet to 330 feet.

The nave was to be vaulted over, with transverse vaultings across the aisles, to serve as abutments, after the design of the fragment known as the Temple of Peace. Screens of columns formed aisles in the apsidal terminations of the three upper arms of the cross: a novel feature, and one which seems to contain promise of richness and picturesqueness of effect.

The great order of the nave was Corinthian, and was 101 feet high. Professor Cockerell suggests that the contrast of an order of such colossal dimensions, with one much smaller, as designed by Bramante for the exterior, was intended to produce that effect of surprise, which was a not uncommon artifice in Medieval composition.

But the chief glory of Bramante's design was to be the dome, covering and crowning all, with its cross uplifted to heaven. This was, no doubt, suggested by the Pantheon, which had ever excited the admiration of architects. The Pantheon was low in section, being only one diameter high, and it rested on a continuous abutment. To place the dome of the Pantheon in the air was, therefore, an untried attempt, and on this Bramante resolved.

Bramante's design for the dome, which is before you, was, as you will perceive, marked by a grand simplicity, with its unbroken peristyle of columns, a feature which Wren afterwards adopted at St. Paul's. Michael Angelo was much struck by its originality, and had a high admiration for Bramante's architectural skill. Quarrels, indeed, arose between the two men, with bitter jealousies; but, notwithstanding these, Michael Angelo bore a willing tribute to his rival's ability, and is even reported to have said, "No doubt can exist that Bramante is the greatest architect who has existed from ancient to modern times, and whoever has departed from his model has departed from the truth."

The construction of a lofty dome was not, however, an original inspiration of Bramante, for as long back as 1298 Arnolfo di Cambio da Colli had commenced a similar design, which he did not live to finish, in Florence.

The dome of the cathedral at Florence is almost identical in diameter with that of St. Peter's, each being about 134 feet or 135 feet, the diameter of the dome of the Pantheon being 142 feet.

After Arnolfo's commencement of the Florentine cathedral, upwards of a century elapsed before a man was found to carry out his conception, and crown his work with the dome we all know so well. That man was Brunelleschi, who, in 1407, produced his plan in the famous competition for this work. Michael Angelo looked on this design with admiration, and, in the days of his greatest influence in Florence, exerted himself to prevent the designs of Brunelleschi for the completion of the building from being departed from.

The novelty of Brunelleschi's proposal was the suggestion that the dome should be double, connected together with ribs, and that both outer and inner domes should be pointed in sections. We shall see hereafter how much Michael Angelo was influenced by this design.

Bramante's drawings are but partially preserved, and we do not know how he proposed to deal with the constructional details of his dome. We do know, however, that his character was hasty, and impetuous, even to rashness; and an inspection of his plan is enough to show us that the strength of his four great piers is altogether insufficient for such a dome as he intended to erect.

Bramante was in so great a hurry, however, to realise his project, and was so much pressed by his impetuous patron, that the piers were carried up with undue haste, and showed signs of decay and weakness before his death, which occurred in 1514.

On the death of Bramante, his mantle, as architect of St. Peter's, fell on no less a man than Raphael. This famous painter had come to Rome in 1508, and Bramante had at once secured for him the favour and patronage of the Pope. He was at once employed on his immortal works in the Vatican, and his simple, graceful ways earned the affection of Julius.

Michael Angelo was now engaged on the Sistine Chapel, and it was scarcely possible for the two great artists to avoid rivalry. Their fol-

lowers, at any rate, were not discreet enough to do so, and, as often happens, showed more party spirit than their masters.

It has been noticed that even when Michael Angelo had completed one-half of the ceiling of the Sistine Chapel, Bramante endeavoured to transfer the remainder to Raphael, and there can be no doubt that he was anxious to exalt his favourite, at all hazard.

It was natural, therefore, that Julius, who trusted in Bramante, and also was much attached to Raphael, should call the latter to his aid at St. Peter's, when death had carried off his friend and master. Raphael must, however, have felt a difficulty, as regarded the more technical duties of his office as architect, for we find associated with him, and presumably at his request, Giuliano San Gallo, and Fra Giocondo di Verona, to act as practical advisers.

(To be continued.)

FLINT CASTLE.

MR. H. TAYLOR, deputy-constable of Flint Castle, lately read a Paper before the members of the Chester Archaeological, Architectural, and Historic Society, upon "The County Town of Flint, including some particulars of interest in reference to its ancient Castle."

The Castle, he said, must have occupied a strong position, situated as it is on an isolated rock, and having the channel of the Dee immediately under its walls, as it formerly had, although the water now, unfortunately, only touches it at high tides. The building was originally of a square form, strengthened by large circular towers, one of which was disjoined, but had a communication with the other part by means of a draw-bridge—that is called a double tower. It appears from the present remains to have been much larger than the other, and consists of two concentric walls each six feet thick, comprising between them an open space of twenty feet diameter. Its interior had a gallery where persons might retire as a last resort. This had a sort of zig-zag communication up and down, and was furnished with four arch openings. The castle also consists of a square area of about half an acre. The remaining pointed windows on the west side are sufficient to indicate that this, like many other ancient buildings, was altered according to the vogue of fashion. On the north-east side it formerly had an outwork called the barbican, which consisted of a square tower. This, however, was nothing more than a kind of postern.

The period when the castle was originally erected has been a question involved in obscurity. Camden asserts that it was begun by Henry II. in 1157, and finished by Edward I. Lord Lyttelton, in his history of Henry, is of the same opinion; but Leland attributes its foundation to Edward I. The late Mr. Pennant frankly says "that the founder of this castle is uncertain." Mr. Edward Parry says the probability is, that subsequent to the signal defeat of Henry at Ewloe, and the great dismay which followed at Coleshill, this monarch, in order to cover his army and prevent such disaster in future, might have caused some sort of fortification to have been erected here. I humbly venture to be of opinion that the castle was erected about the time of Henry's reign, and for this reason, that in Shakespeare's day the castle must have shown some signs of ruins, for, approaching its walls, not only does he make Bolingbroke thus commission Northumberland

Go to the rude ribs of that ancient castle:
Through brazen trumpets send the breath of parle
Into his ruined ears;

but in another place he speaks also of "its battlements." Shakespeare must have seen this venerable castle. Edward I., no doubt acquainted with the eligibility of its situation as bordering on the sea, strengthened and enlarged it, and resided in it in 1277, which enlargement must have been very prejudicial to the men of Flint, for in 1281, among other grievances, they complained "that the King builded the Castell on their soil, by which means the noblest and best of the countrie be injured; and, although the justices had received the royal mandate to grant them remuneration of ground equally in goodness and quality, they did not receive 'in lieu' neither land nor monie." An order was issued in 1280 for the custody of the gate, when probably the castle was first garrisoned, and the constable, as the governor, was appointed at an annual salary of 10*l.* a year, which is not now paid either to the present constable, Captain Pearson Pennant (a descendant of the antiquary), or to the deputy constable; and the keeper of the castle told the court of Quarter Sessions at Mold, that his income from it for the last half year was only one shilling and fourpence, and he could not live on it. During the insurrection of Llewellyn and David in 1280, the Welsh, wearied by a long series of oppressions, took this castle by surprise, at the same time the South Wales chieftains took the castle at Aberystwith, but Edward soon afterwards compelled them to fly in precipitation, leaving it undefended. In 1290 an order was issued for superintending the works of this fortress, as well as those of Rhyddlan. As far as I am able to ascertain, there is nothing to note about the history of Flint Castle from this date until 1311, when Edward II. received his favourite, Piers Gaveston, within its walls, who had previously landed at Carnarvon, on his return from banishment in Ireland for his ill deeds. The next account we have of the castle is in 1333, when Edward III. granted it, together with the fortresses of Chester, Beeston, and Rhyddlan, to his son the Black Prince, and to his heirs the Kings of England. Two years after, the Black Prince was ordered, as Earl of Chester, to take into custody the castles of Flint and Rhyddlan; he was also required to furnish the same with men and provisions.

Richard II., in 1335, granted this fortress, together with the Chief Justiciary of Chester, to the infamous Robert Vere, Earl of Oxford, and, fourteen years later, on the attainder of that nobleman, it was granted to Percy, Earl of Northumberland, who basely requited the favour of the grant by inveigling him to this fortress with the view of entrapping and putting him under the power of the cruel Bolingbroke, who insidiously intimated through the hypocritical earl, that he was merely wishing an interview with the monarch at this place on his return from Ireland for two exclusive purposes—first, a patriotic one, that the nation be allowed

the privilege of having a parliament; and the other, a private one, the restoration of his alienated property. Richard was met by Percy at Conwy, who there delivered the purport of his diplomacy. On the King mistrusting the sincerity of the message and the professed intentions of the earl, the latter to quiet, or if possible to allay the royal apprehension, accompanied him to the temple of the Deity, attended high mass, and at the altar took the oath of allegiance and fidelity. The snare was laid, but when they had proceeded to a defile in the mountainous recesses near Penmaen Rhos, the King perceived his error by the appearance of a numerous military band, bearing upon their standards the Northumberland arms. He tried to escape, but Percy, springing forward, caught the bridle of his horse, and directed his course towards Flint, and the poor deluded prince had only time to reproach the miscreant with his perjury by observing that the God he had sworn before that morning would do him justice, and amply retaliate the blasphemous transaction at the day of judgment. After halting with his royal prisoner at Rhyddlan for the purpose of refreshment, he conveyed him with promptitude to the castle of Flint. The next day he was received with a mock appearance of respect. The day following, after dinner, the Duke of Lancaster entered the castle, all armed, with the exception of his basinet. King Richard came down from the keep to meet him, when Bolingbroke, falling on his knees with his cap in his hand, immediately as he saw the King, assumed a dutiful appearance. On seeing this, "the King then took off his hood and spoke first—'Fair cousin of Lancaster, you are right welcome.'" The duke, being still more courteous, replied—"My liege lord, I am come before you sent for me; the reason why I will show you. The common fame among your people is such that you have for the space of twenty, or two-and-twenty years, ruled them very rigorously, but if it please our Lord, I will help you to govern better." Then the King answered—"Fair cousin of Lancaster, sith it pleases you it pleases me well." The contriver of the plot then quickly threw off the mask, and added insolence to infamy, "With a high sharpe voyce the duke badde bring forth the King's horses," and then "two little nagges not worth forty franks were brought forth;" the King was set on one and the Earl of Salisbury on the other, and thus the duke brought the King from Flint to Chester, where "he was delivered to the Duke of Gloucester's son and the Duke of Arundel's son, that loved him but little, for he had put their fathers to death," who led him straight to the castle. And thus was deposed the unfortunate King Richard II., in Flint Castle, which Shakespere has immortalised by his description of the scene of the royal deposition, in the third scene of the third act of his drama, "King Richard II."

The next time we hear of Flint Castle is in the reign of Henry V., when it was in the possession of the Chamberlain of Chester, who appointed Nicholas Hawbruck as constable, who kept it with four men-at-arms and twelve archers, at an expense of 146*l.* per annum, a considerable sum in those days. From a MS. account in the Harleian Collection it appears that, although this fortress did not fall into the hands of Owain Glyndwr, yet numbers of Flintshire men took up arms on behalf of their gallant countrymen during that alarming insurrection; but Henry, Prince of Wales, procured a pardon from his father to his tenants in these parts, who, under a patriotic delusion, had forfeited their allegiance. Henry VI., in 1422, granted to his mother, Lady Catherine, Queen of England, the crown fees of several bridges and fortresses; among the rest she had the fees of the castle and town of Flint, which amounted to 46*l.* 3*s.* 4*d.* per annum. From this period nothing appears in any of our historic records respecting the castle until the civil wars in the reign of Charles I., when the county took an active part on the royal behalf. Sir Roger Mostyn was one of the first that took up arms on behalf of the King; he was appointed Governor of Flint Castle, and, after repairing it and putting it in a defensible state, at his own expense he garrisoned the same for the King. Flint Castle was closely besieged by the Parliamentary forces under Sir William Brereton and Sir Thomas Myddleton, but it was ably and nobly defended by Sir Roger Mostyn and his garrison, during a long siege of great hardship, and though they had been reduced even to live on horseflesh, still they did not deliver up until the King had sent a specific order to surrender, but their exemplary bravery procured them favourable terms. Two years after this (about 1645) the castle was retaken by the Royalists, and, as appears by articles of convention, received an additional strength, for the whole garrison of Beeston Castle, after a most gallant defence, capitulated, and was permitted to march to Flint with all the honours of war. Notwithstanding this accession of strength the force was not equal to the one by which they were opposed, for on August 29, 1646, it was surrendered to Major-General Mytton. The following year it was, like many other important castles in Wales, dismantled under a general order from Parliament. On the restoration of Charles II., Flint Castle was reserved by the Crown, where it is still vested and governed by a Constable, who, according to the ancient charters, formerly appeared in the two-fold capacity of constable of the castle and mayor of the borough; but this has been altered by the Municipal Corporations' Act of 1835, and the two offices are now separate.

THE "STAUNTON COLLECTION."

EARLY in the present century, says the *Birmingham Post*, the late William Staunton, of Longbridge, near Warwick, commenced the collection of books, manuscripts, deeds, charters, engravings, drawings, coins, tokens, medals, &c., relating to Warwickshire, and his learning, and liberality, and perseverance, and taste enabled him to secure one of the most complete county collections ever yet formed. Not content with the additions made by himself year after year, Mr. Staunton was careful to secure the results of the researches of earlier collectors, and was thus enabled to perfect his "Warwickshire Collection" in an extraordinary degree. It includes practically the results of more than two centuries of patient work, from the days of Sir William Dugdale down almost to our own time. The manuscript collections of Sir Simon Archer, the friend and fellow-labourer of Sir William Dugdale; the records of the Ferrers, Berkeley, and Digby families; the endless researches of Thomas Sharpe, the Coventry antiquarian, and of William Hamper, the Birmingham collector,

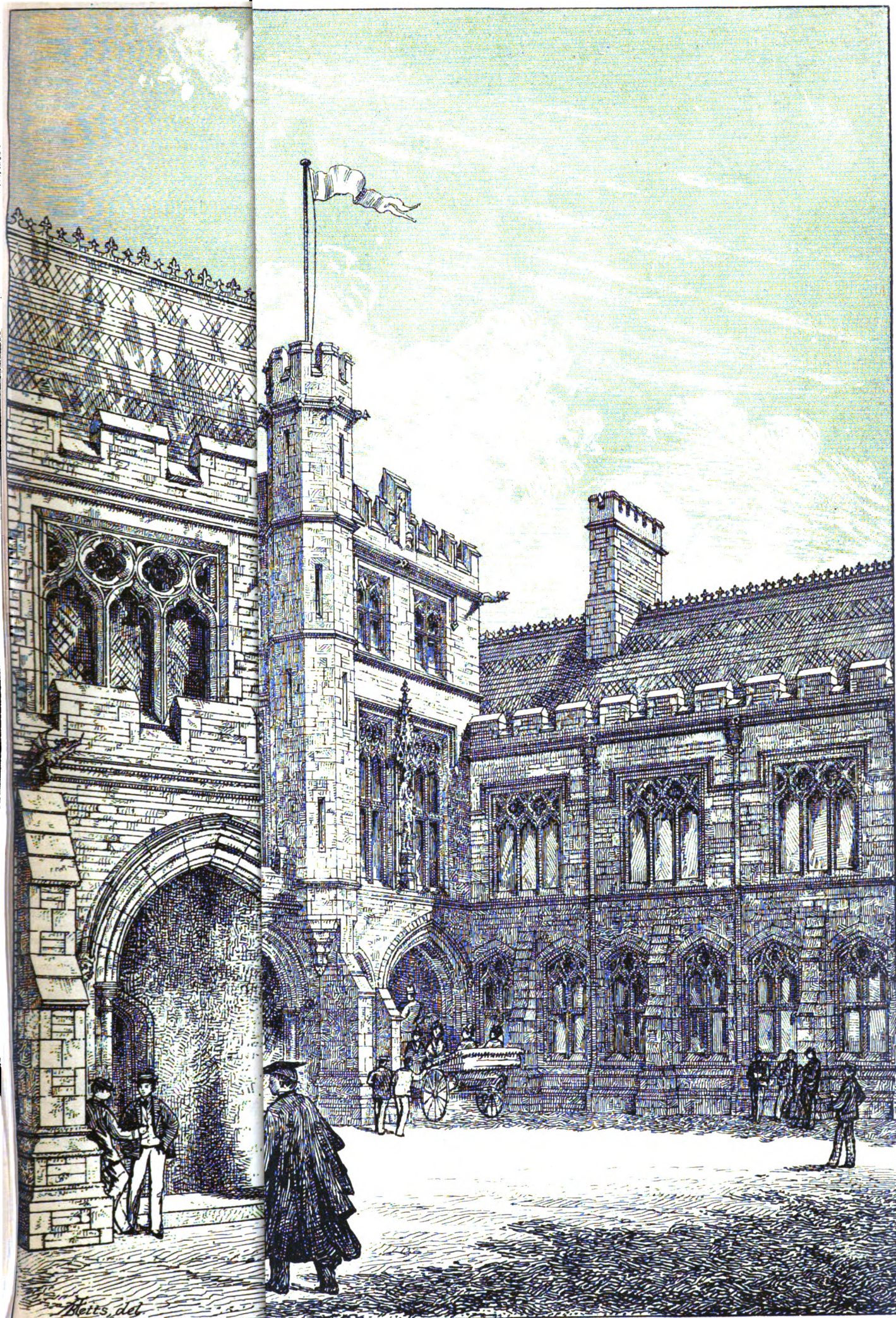
supplemented by Mr. Staunton's own untiring industry and care, have enriched the county by this collection of its choicest treasures of historic interest. Among the most valuable contents are the splendid Cartulary of the Priory of St. Anne at Knowle—a noble folio of vellum, richly illuminated by some patient scribe four centuries ago, and preserving not only the names of the benefactors of the Priory, and the details of its possessions, but the Service Books of the church, with the ancient music and illuminated initials, as fresh and perfect as when first produced. Many other unique books of great local interest relating to the guilds and crafts of the county, and the expenses of Robert Dudley, the famous Earl of Leicester, and an extraordinary collection of Warwickshire autograph letters and documents, many of even national interest, are included in this great collection, but are far too numerous to be described in detail. Many remarkable relics are also preserved, such as the Book of the Rules of the Order of St. Michel presented to Robert Dudley, when he was installed as a member, by the King of France; and another curiosity (among many more) is the great buff gauntlet worn by "fanatic Brook" when he was shot at Lichfield from the Cathedral spire. Many cases and trays, not only of coins and tokens and medals and seals, but many original matrices of ancient monastic seals, and a unique medal struck by Charles and Henrietta Maria to record the battle of Edge Hill, have also been carefully preserved. The ancient charters, deeds, and documents, not only of ecclesiastical but secular interest, are almost numberless, and many of them throw important light on the civil, social, family, and military history of the county during the past five hundred years.

The books number about two thousand volumes, and many of these, being rare and unique, are of extraordinary value, and would excite keen competition if offered for public sale. The sketches and water-colour drawings of hundreds of old buildings now destroyed have an extraordinary interest, not only as records of the past, but even as works of art. The engravings alone are peculiarly interesting, including more than 1,000 of various places in the county—300 of which relate to Birmingham, 200 to Coventry, 200 to Kenilworth Castle, 200 to Warwick Castle, 100 to Stratford-on-Avon. The portraits of Warwickshire worthies are 800 in number, and are more rare, and valuable, and interesting still, for the portraits of Shakespere alone number 267, each being from a different plate. The old manuscripts and the copies of rare old documents relating to Birmingham and Aston and Sutton and Solihull (not to mention every nook and corner of the county generally), the twenty old deeds from the twelfth century downwards, which relate to Birmingham alone, the Hamper Collection, the Parochialia for the History of Aston, &c., the Pedigrees of Warwickshire Families, the rubbings of brasses now lost or worn away, the records of the military and political history of all parts of the county, the rare details of ancient Coventry, and the fine drawings of buildings and city gates long ago removed, the numismatic history of Warwickshire in the hundreds of rare coins and tokens and political medals, the large number of rare quarto tracts relating to the Civil War, the volumes of important letters of all dates, from eminent persons of the county, have, for more than half a century, made the "Warwickshire Collection" famous wherever the names of Sharpe, and Hamper, and Staunton have been known.

The greatest wish of Mr. Staunton was that the collection, which was a labour of love, and the labour of his life, should never be dispersed. Ever since his death the treasures have been carefully kept at Longbridge (where the courtesy of viewing the collection, although ever readily granted, has necessarily been limited to a few), and his son, Mr. John Staunton, with filial regard to his father's memory and enlightened liberality to secure his wishes, has proposed arrangements by which this great collection of Warwickshire antiquities shall become a public trust in Birmingham, and be incorporated with the Reference Library, under such conditions as shall perpetuate this great literary monument to his father's memory and fame.

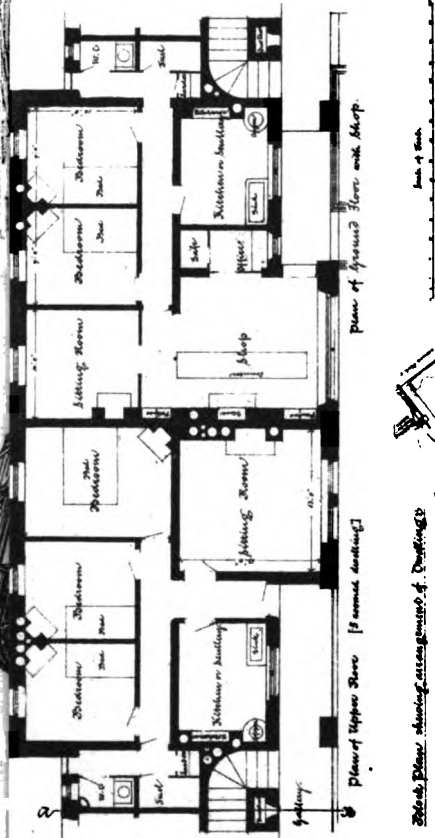
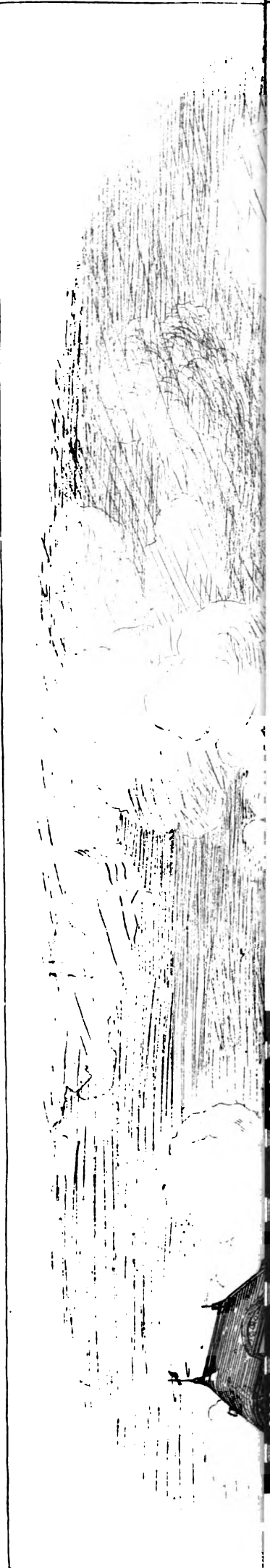
"TOWNSEND'S CHIMNEY," GLASGOW.

MR. R. M. BANCROFT, of the Engineers' Staff, Great Northern Railway, read a Paper on the above structure at the last meeting of the Civil and Mechanical Engineers' Society. Mr. Bancroft (the vice-president of the society) stated that it is the tallest chimney in the world. It was built by Mr. Robert Corbett, of Duke Street, Glasgow, for Mr. Joseph Townsend, of Crawford Street Chemical Works. The total height from foundation to top of coping is 468 feet, and from ground-line to summit 464 feet; the outside diameter at foundation being 50 feet, at ground surface 32 feet, and at top of coping 12 feet 8 inches. The number of bricks used in the erection were as follows:—Common bricks in chimney, 1,142,582; composition and firebricks for inside cone, 157,468; common bricks for flues, &c., 100,000; total, 1,400,000. The weight of bricks at five tons per thousand is equal to 7,000 tons. When within five feet of completion the chimney was struck by a gale from the north-east, which caused it to sway 7 feet 9 inches off the perpendicular, and it stood several feet less in height than before it swayed. To bring back the shaft to its true vertical position, "sawing back" had to be resorted to, which was performed by Mr. Townsend's own men, ten working in relays, four at a time sawing, and two pouring water on the saws. This work was done from the inside on the original scaffolding, which had not been removed. Holes were first punched through the sides to admit the saws, which were wrought alternately in each direction at the same joint on the side opposite the inclination, so that the chimney was brought back in a slightly oscillating manner. This was done at twelve different heights, and the men discovered when they were gaining by the saws getting tightness with the superincumbent weight. For many days after the chimney was finished Mr. Townsend invited the public to go to the top. Thousands availed themselves of the opportunity, two persons going at a time on a small platform with cross bar in centre to hold on with the hands. There were always four persons at the top, and two going up; when they arrived, two came down to make room for the next pair. As many as 200 persons were sometimes waiting, so great was the rage to mount the monster *lum* (Scotch for chimney). It is a masterpiece of chimney-building, of which both builder and owner may justly feel proud.

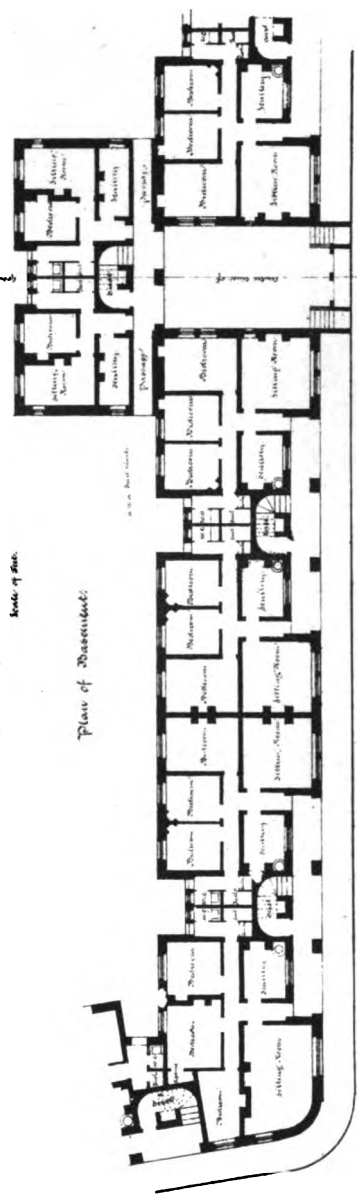
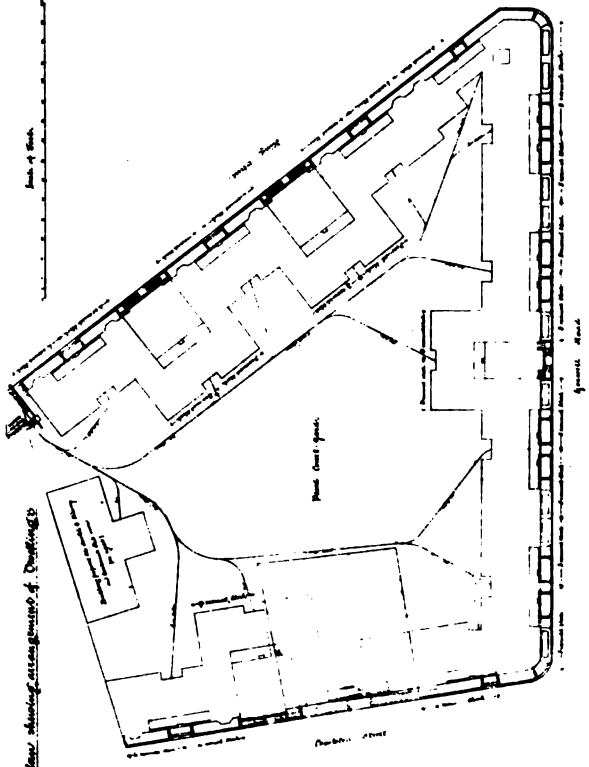
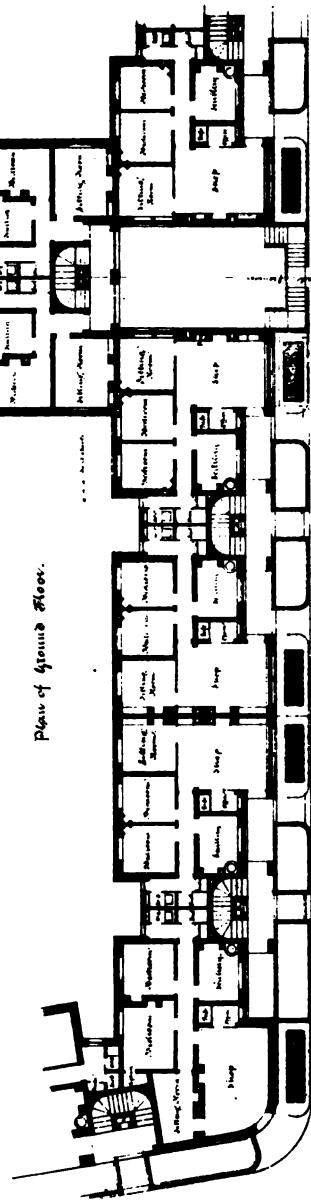


Printed by W.W. Spang & Co. London, E.C.





Plans of Dwellings facing Goswell Road.



DESIGN FOR IMPROVED INDUSTRIAL DWELLINGS, GOSWELL ROAD.
H. D. SHEPARD, ARCHITECT.

Drawn by W.W. Simpson & Co. London E.C. 4.



ILLUSTRATIONS.

FEBRICIAL BUILDINGS, CLIFTON COLLEGE.

WE have already published an interior of the library of this important group of buildings, and the accompanying illustration shows the quadrangle. We reserve further particulars of the general arrangement until we publish a plan and some other views. The architect is Mr. CHARLES HANSOM, F.R.I.B.A., Clifton, Bristol.

DESIGN FOR IMPROVED INDUSTRIAL DWELLINGS, GOSWELL ROAD.

THIS illustration has been reduced from the drawings submitted by Mr. H. D. SHEPARD in the late competition for the blocks of dwellings to be erected by the Improved Industrial Dwellings Company, of which Sir SYDNEY WATERLOW, Bart., is Chairman.

COMPETITIONS.

UNDER this heading we propose to give each week, or as often as may be necessary, a brief account of the conditions of such competitions as may at the time be open to the profession. In doing so we shall point out what conditions have been framed in accordance or at variance with the rules agreed upon at the General Conference of 1872; beyond this it will not be our province to go, our object being to help the reader to ascertain (more than an advertisement can) whether the conditions of a particular competition are likely to meet with his views, rather than to furnish a reprint of such details of requirements, &c., as he must, after all, obtain for himself. The numbers refer to the corresponding paragraphs in the General Conference Rules above mentioned.

Nottingham Industrial Dwellings, and Nottingham Gas Workmen's Dwellings.

The conditions of both these competitions are identical, and are not in accordance with rules 1, 6, 8, 9. In the former 180 rooms are required, divided into 70 separate tenements; in the latter, 170 rooms in 60 tenements—both to cost 40*l.* per room. The premiums in both cases are 50*l.* and 25*l.*, but the authors are required to relinquish their property of the premiated designs, and the first premiums are to "merge in the commission" should the authors be employed to carry out the works.

Time, April 20 and May 4 respectively.

Macclesfield Science and Art Schools.

Not in accordance with rules 1, 3, 6, 8, and part of 4. The author of the selected design to carry out the work, and a premium of 10*l.* is offered for the next best. The cost is fixed at 2,000*l.*

Time, April 30.

Cardiff Infirmary.

1. A "London architect" is to decide on the merits of the designs sent in, but his name is not mentioned.

In other respects, too, the conditions are vague, and, as such, at variance with rules 3, 4, 6, 7, 8, 9. No premium or employment is offered, but there is one great honour in store for the author of the best design—"The accepted design is to become the property of the Infirmary!" Pwllpant stone is to be used, with "Cwm Down" dressings.

Time, June 25.

THE MANLEY HALL SALE.

THE fourth day of the sale of Mr. Sam Mendel's effects at Manley Hall realised upwards of 6,000*l.*, and was confined to the sculpture gallery and the furniture of the drawing-rooms. The following were the principal sales of sculpture:—"A Girl with a Pet Bird," a statuette by E. Thierry, of Milan, 46 guineas; a bust of Napoleon, from Alton Towers, 57 guineas; "A Girl with a Kid," a statue by R. J. Wyatt, 350 guineas; "Rebecca at the Well," a statue by B. E. Spence, 160 guineas; "Devotion," a bust by Colombo, 51 guineas; "Head of a Girl," a bust, 50 guineas; "Venus," a bust by Gibson, 85 guineas; "Hebe," a statue by R. Omerod Smith, 130 guineas; a bust of Christ, by H. Lawlor, heroic size, 50 guineas; "Poetry," a life-size figure by J. Lawlor, 205 guineas; "The Gleaner," by R. Omerod Smith, 100 guineas; "Cupid Sleeping," 70 guineas; "Innocence," by P. Freccia, 94 guineas; "The Wounded Amazon," by John Gibson, exhibited at the International Exhibition, 1862, 72 inches high, 610 guineas; "The Babes in the Wood," by John Bell, exhibited at the Great Exhibition of 1851, 185 guineas; "Eve," life-size statue by P. MacDowell, 520 guineas; "Bacchus and Ariadne," 61 guineas; "Venus leaving the Bath," a copy from Canova, 115 guineas; "A Group of two Nymphs Bathing," 90 guineas; "A Girl with a Basket of Flowers," 45 inches high, 125 guineas; the companion, 75 guineas; a pair of oval bas-reliefs, with children sporting, 35 guineas; "The Dying Spartan," life-size, recumbent figure by L. Amigoni, 1867, 75 inches by 34 inches, purchased from the Brera Gallery, 215 guineas; "The Two Orphans," a group by A. Fontana, 1850, 38 inches by 16 inches, 165 guineas; "The First Whisper of Love," by W. C. Marshall (a finger broken) 105 guineas; "Eve," by Fraccarolli, small life-size, 92 guineas; "Clizia," by L. Crippa, of Milan, a statuette, 75 guineas; "A Child with a Bird," 54 guineas; "A Mother and Child," 10 guineas; a statuette of a nymph, 40 guineas; a bust, by J. Gibson, 85 guineas; "Head of a Girl,"

a bust, 50 guineas; "A Child, emblematic of Summer," 51 guineas; a colossal bust of Bacchus, 25 guineas; "Paris," a statue of heroic size, after Canova, 86 guineas.

The fifth day's sale realised upwards of 3,300*l.* The more important sales were as follow:—A pair of large jars, richly enamelled with Chinese figures in medallion, 53 inches high, 42 guineas; a pair of green and white jars, 54 inches high, 50 guineas. Dresden ware.—Pair of globular jars and covers, deep blue ground, richly gilt, 50 guineas; a pair of large oviform vases and covers, painted with battle scenes in medallion, 29 guineas. Sevres.—Three sets of six plates, with deep blue borders, richly gilt, painted with views of French châteaux, 21 guineas each; pair of vases, 20 inches high, 21 guineas. Capo di Monte.—Pair of Campana-shaped vases, with Bacchanalian figures, 21 guineas; large oblong casket, with eight subjects of figures in relief, 40 guineas; one Campana casket-lid, surmounted by a group of Bacchus and Ariadne, 52 guineas. An oviform vase and cover, with white and gold flutings, and with the triumph of Amphitrite in high relief, with dolphins' heads on the foot, and group of three children on the lid, 135 guineas; one Campanian vase, 136 guineas; an oblong casket, with five subjects of classical figures in high relief in colours, 44 guineas; one Campanian casket, 41 guineas; a fluted canister, painted with a landscape, 30 guineas; a Copenhagen cabaret, 50 guineas; pair of white and gold vases of Copeland porcelain, 20 guineas. Decorative objects.—Part of large crimson birds, with coloured wings of Chinese cloisonné enamel, 90 guineas; pair of fluted vases ditto, 29 inches high, 170 guineas; French table ornament, bronze gilt, 34 in. high, designed for the Duc d'Orleans, and purchased at his sale, 210 guineas; Cupid riding on a lion, in boxwood, 55 guineas; a pair of beautiful candelabra, 42 inches high, 158 guineas; a pair of large Dresden groups of sportsmen and hounds, 48 guineas. Bronzes.—Circassian Slaves group, by Lefevre, 61 guineas; pair of large bronze equestrian figures of Fame and Victory, 800 guineas; "The Deluge," a group, 28 guineas; a group of Bacchanalian figures, 30 guineas; six ditto, 30 guineas; Achilles and Chiron, 28 guineas; a pair of fine ewers, 21 guineas; a bust of Inigo Jones, 40 guineas; an equestrian statue of Marshal Turenne, 32 guineas; pair of large figures of Venus and Antoninus, 22 inches high, 35 guineas; the Marti Horses, a pair, 25 inches high, 32 guineas; a Crouching Venus, 32 inches high, 37 guineas; a gladiator, 25 inches high, 36 guineas; "Milo Rending the Oak," 53 guineas; a two-handled vase, 34 inches high, 40 guineas; Improvisatore, by Duret, 36 inches high, 43 guineas; Apollo, 57 inches high, 35 guineas.

The sixth day's sale, comprising the contents of the modern library, realised nearly 1,100*l.* The library was chiefly interesting as containing a large number of books illustrating art. R. and S. Redgrave's "Century of Painters of the English School," inlaid, and bound in ten volumes, and illustrated with one thousand one hundred and fifty-six engravings, comprising portraits of the artists mentioned in the text and specimens of their works, fetched 132 guineas.

THE BIRMINGHAM SOCIETY OF ARTISTS' EXHIBITION.

THE private view of the spring exhibition of water-colour drawings of the Society of Artists took place on Wednesday. Among the chief contributions are:—"The Reader," by E. K. Johnson; "The Prison Hole" and "The Auctioneer: a Street Scene," by J. G. Pinwell; "The Princess and the Pelicans," by H. S. Marks, A.R.A.; "Starring in the Provinces," by A. D. Tripp; "Tintagel Castle," "Trebarth Sands," and "The Thames at Mapel Durham," by George Tripp; "Interior of the House of Lords" and "Interior of the House of Commons," by Joseph Nash; "Black Gang Chine" and "A Saw Mill," by Henry Bright; three drawings by the late George Cattermole; "Loch Scavaig, Skye," by E. Duncan; "Coast Scene," by E. Hayes, R.H.A.; "Cove na Craig," by J. Houston, R.S.A.; "Luccombe, Isle of Wight," by C. T. Lewis; "Footsteps behind Her," by C. J. Lidderdale; "Morecambe Bay," by Henry Moore; "Florizel and Perdita," by R. Redgrave, R.A.; "Ischia," by T. L. Rowbotham; several drawings by Mr. Ruskin; "The Roman Artist," by Alma Tadema; "Alpine Scenes" and "Windermere," by Elijah Walton; "The Lake of Brienz," an oil sketch, by Marcus Stone; a study by Wm. Hunt; an important work by L. Haghe; drawings by R. T. Waite, Jas. Orrock, J. Syer, J. J. Jenkins, Mrs. Backhouse, C. E. Hicks, W. K. Beverley, R. S. Chattock, John Steeple, Hy. Stanier, A. B. Donaldson, F. W. Hulme, Sherrin, Riviere, &c.

ST. ANTHOLIN'S CHURCH.

THE President of the Architectural Association has written a letter to the *Times* on the subject of the demolition of the tower and spire of this church, in which he says:—"I have been informed that the Vestry of the united parishes of St. Mary Aldermay and St. Antholin, Budge Row, have passed a resolution to the effect that the tower and spire of the latter church, the body of which has very recently been destroyed, be removed. I venture to beg that the Vestry will reconsider their resolution and allow it to remain; for, in the first place, it stands a most prominent and picturesque object in the new thoroughfare from the Mansion House to Blackfriars, and, in the second place, we can ill afford to lose the little good still remaining to us of the architecture of the past in our London streets. Apart from its intrinsic architectural merit, apart from its being the work of Sir Christopher Wren and stamped with his genius, I would plead for its retention for its own innate stateliness of design and the happy manner in which it groups with the surroundings. I would earnestly deprecate its removal. London would lose one more of its landmarks, one more of its ornaments, and one more of its unfortunately too few relics of the past, and who will be the gainer?"

THE ARCHITECTURAL ASSOCIATION.

AT an ordinary meeting of this Association held on March 19, Mr. G. H. Birch, President, in the chair, the following were elected members:—Messrs. F. E. Cameron, H. W. Peek, and C. Powell. The thanks of the Association were voted to Mr. Chambers for his courtesy on the occasion of a recent visit of the members to the new printing works of Messrs. Cassell, Petter & Galpin. Some other preliminary business having been disposed of, the chairman mentioned that the drawings on the walls included those which gained the prize in the competition for the Pugin Travelling Studentship.

A Paper (illustrated by various specimens of Doulton ware) was read by Mr. John Sparkes, Head Master of the Lambeth School of Art, on

The Development of Stoneware and other Fictile Materials for Architectural Purposes.

Mr. SPARKES said: The use of terra cotta, in its various forms of moulded brick, and that of glazed earthenware in classical and mediæval times, has been so often pointed out that I cannot feel it a part of my duty to enter at length on that subject, especially as the material I have to introduce to your notice to-night is none of these, but an absolutely new application of a very old ware.

I have but to recall the use of such materials in Greece and the colonies of Greece on the mainland in classic times, shown by the superabundance of remains found, whenever an excavation is made. The architects of the classic periods loved to decorate their skylines with points of interest, which the plastic nature of their material enabled them to do wherever an antefix or a finial came, in its turn, under their hands. The traditions were thus handed down and received a new development in the middle ages, when in the thirteenth century such methods of decorating the pinnacles, the ridges, hips, and points of roofs or turrets were revived. Probably the date was even much earlier, but the soft nature of the material, the imperfect burning, or the decay of the wood on which their constructions were built, or the exposure to the influences of the weather had all operated in abolishing all traces of such remains. However, in the drawings of the buildings in the MSS. of the time we perceive such objects in their ordinary combination with tile roofs, or with shingle roof coverings, all serving as backgrounds to their subjects. Many such exist to this day in mid-France, notably at Troyes, Bourges, &c. In these examples ordinary brick earth was built up in architectural forms suitable for the finials—coarsely put together, apparently modelled, each as it was wanted, not moulded—the result consequently being a great variety of design and an expression of originality not common in modern terra cotta. The earth when burnt was glazed with lead glaze, with any simple colour in it, or under it, such as red, brown, yellow, and green.

In the sixteenth century these simple terminations gave way to a finer system of modelling, and various coloured enamels were used to replace the rougher forms and tints of previous designers. They were and are still called *Palissy* ware pinnacles, and have consequently been collected and in most parts removed from their original situations. Many such were found at Lisieux and other places in Normandy. These pieces were enamelled and a large range of colour was obtainable. Blue (light and dark), white, yellow, and various browns were added to the former range. Not only in France but also in Germany such traditional decoration was never lost, and in many a South German village of the present day such things may still be observed. The more general and nobler use of these materials as stringcourses, decorations of soffits, gables, spandrels, and the more important parts of buildings of higher use and more architectural character is manifest in those countries on the level plain of Central and Northern Germany; and I have but to remind an audience so well aware of the architectural treasures of this district that from Lübeck through Rostock, New Brandenburg, Stettin, Dantzic, to Königsberg, and back by Posen, Breslau, Görlitz, Liegnitz, into Saxony and the Hartz, the architect and archaeologist has a vast series of interesting lessons in the use of burnt clay in its full variety of form. As tracery and as a system of moulding decoration for openings and string courses I know of nothing even in Lombardy more instructive than the gates of Lübeck, the gates and church of New Brandenburg, and some examples of similar uses in Dantzic. For an amazing example of design and perfect execution of a large building carried out in the national material I need but refer to the new Rathhaus in Berlin, where, inside and outside, the whole principle of construction is brick decoration, relieved with figure panels of terra cotta.

In Holland—Amsterdam, Utrecht, Delft, and other towns, give less instructive though not less clear evidence of the powers of this material in the hands of the designer who can grasp its peculiarities, and conform his ideas to its technical limitations. While speaking of the general subject I might but allude to the material as perhaps the only one that will adapt itself to the endless designs that thousands of artists have given to the world for chimneys and chimney pots. The variety in Germany and North Italy alone is bewildering, and in our own country all, whether artists or not, must be struck with the manly character that our Elizabethan and Jacobean designers gave to their groups of roofs and their sky-lines by the splendid decoration of the chimneys of their houses—these often being of brick even when the building was of stone.

The durability of these pottery decorations may be estimated from the fact that they actually exist at this day. For instance, there are Elizabethan chimneys in Sussex at this hour, as sharp as when they were erected. The house and chimney gables at Morza and Verona, and especially the chimneys and pinnacles at the latter town, prove that 300 years' exposure to the climate do not affect the material. The gates at Lübeck and the roofs and pinnacles at Breslau show that glazed ware is quite capable of withstanding for hundreds of years the severe trials of the hardest frosts. The existence of Roman and Greek terra cotta, some of a peculiarly frail kind of clay (as the Etruscan vases), also point to the practical indestructibility of this substance. The remarkable Etrurian monument recently added to the British Museum collection from that of Signor Castellani proves the indifference of those baked earths to the effects

of time. Two thousand years have had no deteriorating effect on this strange work of an almost unknown people. No doubt, if many of the examples I have named had been fully exposed to the weather, they would have been destroyed just as any building material whatever would have equally perished; but, on this plane of equal exposure, the Roman Tower at Cologne or any of the Roman remains in our country, we see the herding-bone work in brick or tile as perfect and often more perfect than the stone wall in which it is built. The protection that is afforded by a drip mould is sufficient to rescue the bright lead glaze of the ordinary glazed bricks used in Pomerania from deterioration. Climate of the most changeable and rigorous kind, equally with the no less destructive sea winds of our western coasts, have the least possible effect on well-burnt pottery, whether glazed or not. I may instance a figure of Britannia, which surmounts a building near the Exchange in Liverpool. This was a piece of Coade's terra cotta, made in Lambeth at least eighty years ago. It is as sharp at this time as it was when first put up, while the stone of the buildings around, of half its age, is going or has gone to ruin.

This enduring quality of terra cotta is due to the nature of the clay used in its manufacture, and the amount of heat to which it has been exposed; and this constitutes the difference between honestly-made terra cotta and the material that has often been used which is too imperfectly fired to resist the ordinary atmospheric influences. In general, all the cases of durable terra cotta and glazed earthenware I have hitherto mentioned are soft in body, and in any case, when glazed, are either dipped in a lead glaze or, when enamelled, in a tin opaque glaze which is afterwards coloured. This protects the soft and more or less porous body from direct action of external agencies, but is in itself not proof against them, and we may conclude that the atmospheric action on all these metallic coatings is sooner or later destructive; so that, finally, the body of the fictile material is the substance on which all reliance must be placed. Thus the condition of the body is the ultimate consideration in dealing with any of these things.

In proceeding, Mr. Sparkes said: I would very seriously ask the attention of all architects to this question, for it is one which has, by its neglect, served to bring terra cotta and similar materials into disrepute. The point, therefore, to be insisted on is that the clay is of a proper kind, and the firing sufficiently long-continued and intense to cause the chemical change which, to be perfectly achieved, converts the friable earth into an everlasting piece of pottery. Both these points are of importance, for if on the one hand an ordinary stock brick is burned in a pottery kiln, it turns to a bubble of cinders; other clays, which are perfectly capable of resisting the intense heat, are not close enough in texture to make a tough resisting building material; thus the proper knowledge of the potter comes in here, and in such a question it virtually becomes a matter of honesty and capability in the potter who is employed to produce these things. Again, on the other hand, the amount of firing that each piece requires is a matter necessarily left to the potter; but the purchaser has his tests, which can be easily applied, such as ringing the ware, and the further test of scratching the ware sharply with a steel point or knife, which, if resisted successfully, would prove the burning to have been honestly done. Nevertheless, in spite of many instances of soft terra cottas, the fact remains that burnt clay, in many of its forms, is by far the most durable of all building materials commonly available.

The new adaptations in glazed terra cotta that I have to introduce to you to-night are those which have for the most part an effect dependent on the beauty of the ware itself. Not anything is added to the body to develop these golden tones and these tones that resemble old gilding, and that, judiciously used, would serve as the most gorgeous background of an imperishable material ever brought into practical use; for, I wish to explain, these specimens have passed through the large kilns, and have attained a partial vitrification of body, and are covered with a purely vitreous glaze so hard as to cause them to rank with porcelain in point of durability. I indicate these few specimens as offering a new resource to architects when they have to deal with the finishing and decorating of large wall surfaces. This decorated surface (specimen exhibited) is on a tile designed for building in with the bond of a wall or to be made to adhere to the plaster by wall hooks or other means, and the air space at the back will obviate the condensation of moisture so often observed in our climate (in a sudden change of temperature) on tiles that are cemented on an impervious wall.

The other objects I ask you to observe to-night are not peculiar to Messrs. Doulton's manufacture. They are either the ordinary over-glaze or enamel colouring on tiles, or the usual under-glaze material for the same end. All that they can pretend to is a better manner of figure decoration than is ordinary in such things, and newness of pattern in the cheaper productions—the inexpensiveness being remarkable as compared with the usual productions for wall decorations, such as Deck's or Parvillé's, or indeed in comparison with any similar tile-work that is wholly hand-work. [Mr. Sparkes here described the peculiarities of several specimens of tile-work. One specimen, exhibiting a lady in a wood, was an example of the judicious mixture of enamel and colour. A group of oranges and sunflowers (in another specimen), derived from the colour of the ware a golden tone, which furnished a beautiful background. He also referred to the applicability of terra cotta slab-work to curved surfaces, thus dispensing with tile-joints.]

Stoneware.

I now come (continued Mr. SPARKES) to a material which has separate claims to the attention of the architects of this country, on the ground of its absolute indestructibility and its absolute novelty, as well as on the score of its great beauty. Stoneware has been known as a potters' material for many centuries, but only came to its full artistic development in Germany in the fifteenth to seventeenth centuries. It is a dense and highly vitrified material, impervious to the action of acids, and of peculiar strength, and differs from all other kinds of glazed earthenware in this important respect, that the glazing is the actual material itself fused together.

The whole process of potting in this ware is peculiar, and its peculiarity is the essential characteristic of stoneware. The difference between it and

any other ware is this—that the firing and glazing are one operation. With every other kind of ware the body is first fired, and is taken from the kiln in a more or less porous state, and is then called "biscuit." The biscuit is then dipped into a creamy fluid, which is made by reducing the various materials of which the glaze is composed to a fine powder, and by mixing them with water. The ware, thus coated, is returned to the kiln, and after being fired a second time comes out covered with its film of glass or glaze. Now, as I have said, stoneware is a different thing, and its processes are quite distinct from these; it is fired and glazed at one operation. During the first firing, which converts the brittle useless clay into impervious ware, and when an intense white heat is reached, salt is thrown into the kiln, either from above, through holes in the crown or dome of the kiln, or into the fire holes, or both. The intense heat decomposes the salt, which is changed into gaseous fume or steam. One constituent of salt, the chlorine, escapes out of the kiln as vapour; another portion, however (the soda), as it flies through the kiln meets with the white hot ware, in which is always a portion of flint, and forms with it a silicate of soda or soda glass. This subtle, aerial glazing is thin, transparent, and intensely hard, and almost indestructible; it does not coat the finest scratch so thickly as to obliterate it. It is, on this account, the perfection of glaze; it is a great security against imperfect burning, as the salt will not volatilise at a lower temperature than suffices to make the ware white hot.

Such is salt-glaze stoneware; a material so indestructible that it is the only ware that effectually resists the attacks of the strongest acids, and that, consequently, is used under the general name of chemical ware, for the manufacture and storage of these substances. The demand for these chemical vessels is enormous, both abroad and at home, and wherever a chemical manufacture is established. I call your attention to this point especially, as probably the attack that concentrated sulphuric acid would make on this ware in twenty-four hours would equal, and perhaps exceed, in destructive effect, the corrosion of the same material as it is found in the atmosphere in twenty-four centuries. It is to be remarked that the exact condition between vitrification and porosity has been reached, so that it is quite impermeable, and yet sufficiently loose in texture, to resist the tendency to crack from sudden and great changes of temperature. It is, in fact, a coarse porcelain, but glazed by the fusion of its own substance under the combined attack of heat and chemical decomposition and reformation.

The methods of decorating this material are strictly limited by the conditions of its manufacture. Naturally stoneware, as burnt with coal in Lambeth, has a rich light or dark ochreous brown tint. This may well serve for a ground tint or basis for the decorator. This may be prepared for colouring by various methods of scratching or cutting out of patterns, when the clay is wet or when "green hard," and various additions may be made to its plain surface by the sticking on of leaves, shields, bosses, or points, or other ornamental forms, or by partial carving, or by piercing and even by modelling. These various methods of heating the surface are then coloured, and the whole piece of ware fired.

It is necessary that I should call your attention to the range of colour that can be attempted, as upon this question the whole decision, respecting its employment, may sometimes hang.

In the old Grès de Flandres the range of colours was very simple, being oily blue, or grey and purple, or purple brown, produced by the use of cobalt and manganese. The harmony that these two colours made with the body of the grey ware is the source of the pleasure we have in the old pots that are now so eagerly collected. With the modern Doulton ware this range of colours has been considerably increased, as by the application of a white slip the old grès may be imitated in parts of the pieces of ware; this adds white or grey to the ochreous body of the stoneware. Then, blue of varying intensity and opacity—brown of varying depths and clearness—blue-green, and clear deep green, pink, yellowish-brown, and clear grey. All these are now available, and may be seen in the specimens brought before you (and which Mr. Sparkes described).

It has not been an easy or an inexpensive task to introduce this variety into a ware so intensely fired as this, for it must be remembered that the old grey and the modern grey is burnt with wood, and that the necessary employment of coal brought us face to face with many difficulties that were never met by the old potters, and the more intense heat produced by coal over wood caused other troubles connected with the body of the ware. The use of larger kilns and the consequent production of a larger mass of heated ware which had to be cooled very gradually brought its own trouble on the ground that certain colours would stand the intense heat, but not the long enduring heat; nevertheless these disadvantages bore in some cases a corresponding compensation in the partial destruction of the pigments by heat, which produced a most beautiful variety of jasper ware colour.

Again, the chemical conditions brought about by the firing of large masses of ware in the open kiln in close contact with all the vapours of coal in combustion, were very adverse to success in the efforts to introduce certain colours, and the sulphur or other products interfered obviously with the intended results. It is interesting to observe here that the efforts made at Lambeth during the last four years have stirred up the German potters to make a reproduction of their old national ware, and we see now, even here, abundant proof of this revived activity, but the spirit of the thing is wanting, and at present they have not attempted anything further than the beer jugs and heraldic flat bottles that were so fashionable at the time of the Reformation, so that neither now nor at any former time has this material been used for architectural purposes. It comes, therefore, as an absolutely new application which it is for the architects of to-day to develop. This I feel sure may be done with a great gain to the beauty of small parts of our buildings, for the Doulton ware has a property and a quality that no other ware has. I call your attention to the soft, rich brilliancy of the tones. Such a material, if used to touch up a building, must be a valuable addition to an architect's resources. With such colours, applicable as they are to every variety of plastic forms, sober, quiet, harmonious, and deep, full of quality, and without any possibility of their ever becoming, even in the hands of inexperienced designers, garish or common, almost any conceivable effect

may be produced. And I have to point out that this decoration may be, and generally is, in a low key of soft richness that it will still further enrich a building as the fabric obtains age. The disadvantage that attaches to the use of bright glazed pottery ware decorations often is that they are brilliant and fine and in harmony with a perfect new building undimmed by the weather stains and smoke of towns, which in a few years will certainly reduce the whitest and brightest building to a more or less dingy tone. This objection is met by the employment of this low-toned yet perfectly jewel-like system of decoration. The very virtues of this stoneware, which are the result of its greater trials, make it of different application to terra cotta, as by the greater closeness of texture and the greater heat that must be employed to vitrify it, a greater risk of warping and cracking is inevitable. This at once indicates its use in small pieces, and in such places where absolute flatness of surface is not indispensable; but under these conditions I conceive it may be applied with most admirable effect to heighten mouldings in red terra cotta, or to panel terra cotta pilasters, that may be either dry or glazed; to introduce it as surface decoration in the manner of tiles, but with a perfectly different quality of effect, as bases and capitals, especially as shafts to ornamental columns, as bosses to vaults, or as smaller bosses for the heightening of mouldings for all work that is ornamental and visible from a near point of view; for larger work at a greater distance also, but then, of course, the scale and system of the decoration must be adapted to its position.

I ask your attention to two models of a font and a pulpit that have been constructed in stoneware. They will both be worked out in a combination of terra cotta and Doulton ware, to the mutual heightening of each other's beauties. These models will indicate the applicability of the material for figure-decoration, either on a large or small scale, as the perfection of the glaze does not hide the smallest touch of the modeller, and in this condition of usefulness the advantage of a glazed material, on the score of its being easily cleaned, is very great indeed. Moreover, here again the introduction of a pleasant, rich, and harmonious colouring is so obvious a gain to figure groups that I venture to predict a large use of this exquisite material for the decoration of panels in pulpits, fonts, spandrels, niches, &c., and other positions which would readily suggest themselves to the designer. It is also clear that the disadvantages that attach to the use of polished marbles for shafts or decorative bosses are completely overcome by the unalterable nature of the new material, and the certainty that it will retain its brilliant surface for centuries without any exfoliation or weathering which too often leaves the most delicate composition without a point of interest except a regret at its premature decay. The ordinary earthenware and majolica bosses are different from these that I now speak of in the fact that their glaze is always liable to craze, and in the majority of cases is already crazed, as many specimens I have seen show. The effect of "craze" is to admit atmospheric and weathering influences to the body of the ware under the glaze—that means to disintegrate it in time if the body is not sufficiently vitreous to resist the attack—which in the case of stoneware is assured.

The question of strength of this material is not likely to be a vital one, as it is not probable that it will be used in a constructive form except under certain limitations, but rather as a method of applying surface decoration. Nevertheless on this score it is satisfactory to know that water-pipes are made of a clay not so strong in its nature as that used for these vessels, and burnt and glazed in exactly the same manner that are subjected to working pressure of 30 lbs. to the inch, while the crushing force is from 50 to 100 tons per foot of surface, dependent on the form and construction of the pieces operated upon; and that, generally speaking, the tables of strength, based on the behaviour of terra cotta, may be regarded as showing the minimum of the resisting power of this new ware.

With regard to cost, terra cotta is generally a third less than stone for ordinary mouldings and the usual application of decorative features, but this ratio is materially altered when a design with much undercutting is necessary. Then the facility with which this is done in soft clay causes the relative cost of the two substances to alter in the ratio of one-half to one-third the cost of stone. With regard to the cost of stoneware decoration, experience in its use is wanting on a sufficiently large scale to have brought it into the market as a material which can be supplied at so much per foot; but the cost, whether of simple patterns or enrichments, will at no time nor in any combination of colours be so great as to be any bar to its extensive use.

In conclusion, Mr. Sparkes said: Thus I have endeavoured to give you an idea of what has been done at Lambeth to develop this new thing. It remains for the profession to determine the place it shall take in future design. My impression is that this art, so entirely in its infancy, will take a prominent place in the designs of the future.

The PRESIDENT observed that Mr. Sparkes had spoken of this art as being in its infancy; but portions of the Tower of Nineveh had been found covered with glaze. On one of the old tombs of Thebes being opened, containing the remains of Queen Aah Hotep, he believed the remains of vitreous paste were found. Probably some were present who had used the terra cotta and stoneware described by Mr. Sparkes, and would give them the benefit of their experience.

Mr. CRACK said that in the first place he would move that the best thanks of the meeting be accorded to Mr. Sparkes for his very interesting and useful Paper. He had brought to their notice a material on which the future hope of London architecture might be said to depend, unless they could get rid of the smoke. It was a material which, from its superior colour and extraordinary durability, was especially adapted to all external decoration, and he believed that young architects would do well to bear it in mind as one of their leading decorative materials. One or two difficulties, however, occurred with regard to its general use, for those who used terra cotta had generally found that one of its disadvantages was in the application of it for continuous surfaces, such as string courses and cornices, in consequence of the broken line that occurred. In frieze, for instance, a succession of slight hollows would occur which would be observable in continuous surfaces, and this would lead to a great difficulty in the case of

balustrades, and entail the fitting of the component parts of the balustrade. The additional labour and expense thus entailed had the effect of inducing builders to dissuade their clients from using such materials, and architects had been obliged to abandon them, because of the cost incurred in their fixing and setting. Coming to the question of colour, which was more in his province, Mr. Crace thought the material presented extraordinary advantages, and it was scarcely possible to conceive a more beautiful ground for a frieze design than was offered in the golden colour; but there was one very important consideration which militated against the encouragement of the material; he alluded to the prevailing impression with regard to its costliness. In a retail shop, containing examples of this pottery, the prices asked would be 10s., 12s., or 15s. for little jugs which did not appear to warrant such a price. The price of the Flemish ware presented a wonderful contrast, for similar articles were offered in Flanders at the price of from 2 to 4 or 5 francs. The ware he was referring to was Burgandy, the blue and grey. Whatever might be the merits or demerits of the respective materials, the difference in point of cost was extraordinary. He believed he was correct in stating that up to the present time Mr. Doulton had confined his attention to the production of ware of more minute and elaborate design than in future might be always thought desirable for architectural purposes—for designs entailing a great deal of repetition. In the case of repetition of the design, he imagined there would be a considerable diminution of cost. The question of cost was always a difficult one when the decorative features of a building had to be considered, the cost of decoration being the point to which the client would demur. The decorative materials brought to their notice by Mr. Sparkes would be more gladly adopted by the architect if they could be brought within the means of a client of moderate fortune.

Mr. R. PHIBBS STIERS said that Mr. Sparkes read a Paper a short time ago at the Society of Arts on the historical portion of the subject, and the object of the present Paper was to bring the material thoroughly before the students, with a view to eliciting their opinions and criticism. The question of expense was no doubt a very serious one, and had probably prevented the profession taking much trouble about the material for decorative purposes. Mr. Crace had alluded to the difference in price between the Doulton ware and that of Flanders and Germany, but in one respect the articles were very different; the designs abroad were repetitive, and the work was done by a class of people very different to those who did the work here. The cost, therefore, was much less, and Mr. Spiers said he had seen vases like those exhibited worked out at 6d. a piece which were now charged 12s. each. The fact was that the workmen were much more artistic than English workmen, and had received a proper artistic training. Having had an opportunity of comparing prices in terra cotta, he found that the price charged for carving a number of capitals was 16s. each; he had, however, obtained the same capitals in a material which he considered would last far longer than in stone, and would, he hoped, be of superior workmanship, at one-third of the price. That being the case with terra cotta, he did not see why the same result should not be obtained in the Doulton ware. If Messrs. Doulton preferred to adhere to the production of the higher class of ware, and declined to carry out repetitive designs, perhaps other manufacturers would turn their attention to the production of a commoner class of ware, and undertake work that would be repetitive. The question then arose as to how far the material could be applied to external and internal decoration. One of its disadvantages was that it retained its glaze longer than any other portion of the building, and offered a contrast, even a painful contrast, to other surfaces which were dead in tone. He feared it was difficult to compete with nature, and that such a work as the Albert Memorial would have to be toned down in order to bring it into harmony with the atmosphere of London and its surroundings. He, therefore, thought that externally the material could only be used sparingly, and that it was scarcely possible to have glazed tiles throughout a building; it might, however, be advantageously employed in a subordinate manner in friezes, panels, and decorative work. He would not like to see it used in mouldings, as he feared the mouldings would come out too strong, and he preferred sinkings to bosses. Although the material might offer too strong a contrast for external work, he thought that internally there were almost endless purposes for which it might be used, such as the inlaying of fireplaces and for staircases. The variety of design produced by Messrs. Doulton was marvellous—only about fifty new patterns being exhibited out of thousands that had been invented. He had great pleasure in seconding the motion.

Mr. DOULTON said that until recently no idea had occurred of applying this material to architectural purposes, but at length it had struck both Mr. Sparkes and himself that the effect of London buildings might be heightened by the use of so beautiful and indestructible a material. As remarked by Mr. Sparkes, the material was very extensively employed for vessels used for chemical purposes, and which were sent from Lambeth all over the world. At first it was supposed that the variety would soon cease, as they did not anticipate such an exuberant wealth of imagination as had been exhibited in dealing with the material, the productions being inexhaustible in variety. As to the cost of the material in its application to architecture, there was no reason why, if a sufficient demand existed, it should not be produced at a moderate cost. Obviously it was impossible to judge of the cost merely by the production of a single article, but if proper encouragement were afforded the question of cost would receive due attention. In conclusion, Mr. Doulton desired to express his obligations to Mr. Sparkes and to the students of the Lambeth School of Art, observing that the students could not possibly be under wiser or more cultivated guidance.

Mr. A. PAYNE considered that in fictile materials they might look forward to a great development, but he thought it would be in the reproduction of one design over and over again. In the present age the facility of reproduction was remarkable, and afforded the opportunity of immensely cheapening artistic design.

After a few remarks from Mr. ADAMS, the Chairman put the vote to the meeting, and it was duly carried.

Mr. SPARKES expressed his acknowledgments, and briefly replied to the

points arising in the discussion. Mr. Crace had referred to the difficulty in obtaining true lines, and had also raised the question of cost. With respect to the warping of terra cotta, one source of inaccuracy was the drying of the ware before it was properly fired; it was simply a question of care in the drying, and the twisting that afterwards took place was very slight indeed. Pieces had been produced as perfect and as true as could be expected in a stone column. As to the cost, that question had been partly answered by Mr. Doulton. He supposed the cost could not be fairly ascertained by purchasing a single article at a West End shop, as the price charged included various intermediate profits. The time occupied in the production of these articles was said to be an objection, but there was a specimen of a balcony exhibited in the room which was not thought of five weeks ago. That was a piece of genuine stoneware, free from any sort of "cooking or dodging," to use an architectural phrase. He longed for the time when the architect would be bold enough to construct a staircase of that material, and was satisfied that his difficulties would be overcome by the care exercised by the potter. The cost of the material would be much less than polished stone or granite, and would furnish an excellent substitute for the wretched stuff brought over from Carrara; the bad marble carving they had sometimes to look at was astonishing. The difference in the price of the Rhenish (not Flemish) grey ware was attributable to the smallness of the wages paid for its production. Here we had to pay for intelligence and for the power of invention, and invention was a precious thing. The country would be enriched and posterity benefited by these objects of beauty and brilliancy when we had overcome the pang of parting with our sovereigns. No doubt mechanical repetition would make all ware much cheaper, but these mechanical appliances would have the effect of destroying all the interest, originality, and charm of the work. His object was that the human mind should have full play, and leave its impress on the work. Although he would repeat in mass, he preferred to be free in detail. In conclusion, Mr. Sparkes expressed a hope that his Paper might serve as the introduction of a material to the rising architects, who were so well represented on this occasion.

It was announced that at the next meeting, on April 2, Mr. F. E. THICKE would read a Paper on "The Relationship between the Architect and the Workman," the members' *soirée* being postponed.

SALE OF PICTURES.

IN the collection belonging to the late Mr. William Stuart, of Aldenham Abbey, and the late Captain Smith, R.N., of Clarges Street, and Croom's Hill, Greenwich, consisting of 130 lots, sold by Messrs. Christie, Manson & Woods, on Friday and Saturday last, the pictures which obtained the highest prices were:—"The Martyrdom of St. Placidia," by Raphael—a composition of seven figures, in the artist's first, or Umbrian manner, from the Borghese Gallery and the collections of Mr. W. Young Ottley and Mr. W. Coningham—referred to in Buebanan's "Memoirs of Painting," 197l. 8s.; a River Scene, with cottages, peasants on a rustic bridge, and others in a boat, by Van Goyen, 220l. 10s.; a Woody Scene, with a river falling over rocks, a peasant woman and child under a shed near some fine trees on the left, a peasant and sheep on a hill above, by Jacob Ruysdael (signed), 267l. 15s.; a pair of Pastoral Scenes, by N. Berchem (signed), 23l. 2s.; a River Scene, with a church, a ferry, and other boats, and figures, by Solomon Ruysdael (signed), 110l. 5s.; a Wood Scene, with figures, by Rombout, 12l.; a Woody River Scene, with bathers, and a Landscape, with travelling peasants (the companion), by Moucheron, 40l.; a Landscape, with a peasant and dogs tending sheep, by G. Moorland, 99l. 15s.; "The Temptation," by T. Stothard, R.A., small, 2l. 8s.; a Wood Scene, with a peasant and sheep, by J. Crome, sen., from the collection of the Rev. G. R. Leathes, of Shropham, Norfolk, 126l.

The modern pictures and water-colour drawings, the property of the late Mr. W. Smith, of Beech Hill, Halifax, and some belonging to a gentleman in Lancashire, sold on Saturday, realised generally good prices. In the drawings, "Kirkstall Abbey," by G. A. Fripp, sold for 26l.; "Southend," by G. A. Fripp, 69l. 6s.; "Dead Game," by J. Hardy, jun., 49l.; "Venice, with the Dogana and Ducal Palace," by J. B. Pyne, 36l. 14s. 6d.; "Battersea," by David Cox, 26l.; "The Old Bridge at Beddgelert," 27l.; "Scheveningen," by E. W. Cooke, R.A., 42l.; "The Path through the Wood," by E. G. Warren, 50l.; "Little Hampton Ferry," by H. G. Hime, 51l.; "Welcome News," by E. Nicol, A.R.A., 58l.; "Interior of Prague Cathedral," by S. Prout, 63l.; "The Vale of Neath," by Copley Fielding, 105l.; "Noontide Rest," by F. W. Topham, 215l. Pictures.—"The Banks of the Thames," by A. Vickers, 53l. 11s.; "The Return from Sports," by J. S. Noble, 50l. 8s.; "Sunday Morning," by W. P. Frith, R.A., 53l.; "Bacharach on the Rhine," by J. P. Pyne, 40l.; "In the Lledr Valley," by B. W. Leader, 99l.; "The Doubtful Coin," by W. H. Knight, 42l.; "The Wedding Breakfast," by G. E. Hicks, 49l. 7s.; "Lake of Zurich," by J. B. Pyne, 85l.; "Cottage Industry," by George Smith, 73l.; "A Choice Dessert," by W. Duffield, 71l. 8s.; "Confidence," by Carolus, 57l.; "Spring," by Vicat Cole, A.R.A., 131l. 12s.; "The Road to Beddgelert," by John Syer, 309l. 15s.; "The Lost Change," by W. H. Knight, 162l.; "Venice," by E. W. Cooke, R.A., 136l.; "The Doctor's Visit: Out of Danger," by G. B. O'Neil, 81l.; "Hide and Seek," by G. B. O'Neil, 71l. 8s.; "Near Capel Curig, North Wales," by J. Creswick, R.A., 31l.; "An Irish Wedding," by F. Goodall, R.A., 29l.; "New Shoes," by W. P. Frith, R.A., 122l. 17s.; "Rest," by P. F. Poole, R.A., 110l. 5s.; "Advice Gratis," by G. B. O'Neil, 68l. 5s.; "Madge Wildfire and Jeannie Deans," by John Linnell, sen., 94l. 9s.; "A Gipsy Escampment," by F. Goodall, R.A., 99l. 15s.; "The Knotty Point," by E. Nicol, A.R.A., 162l.; "Rejected Addresses," by E. Nicol, A.R.A., 99l.; "The New Dress," by J. C. Horsley, R.A., 194l. Water-colour Drawings.—Vase of flowers, by Miss H. C. Coleman, 18l.; glass with flowers, by the same, 16l.; wallflowers, apple and mayblossom, by the same, 31l. 10s.; "Feeding-time," by Birket Foster, 199l. 10s.; "St. Abbe's Head," by E. Duncan, 136l. 10s.; "Bored," by J. R. Lamont, 36l. 15s.; "In the High-

lands," by W. L. Leitch, 23l. 2s. Pictures.—Portrait of "Whalebone," by J. F. Herring, sen., 26l. 6s.; "The Money-box," by J. Morgan, 28l. 7s.; "La Sonorita," by Haynes Williams, 38l.; "Near Bakewell," by H. Jutsum, 28l.; "Harvesting," by H. B. Willis, 44l.; "Jack Cade's Rabble," by Keeley Halewalle, 215l. 6s.; "Susannah," by A. J. Woolmer, 76l.; "Off the Nore," by R. Beavia, 147l.; "Milking-time, Grassmere," by T. S. Cooper, R.A., 383l.; "In the Lleddr Valley," by B. W. Leader, 246l.; "An Interior," by F. D. Hardy, 63l.; "My Pet," by J. J. Hill, 57l.; "Fruit," by Miss Mutrie, 29l. 18s. 6d.; "Highland Sheep," by R. Ansdell, R.A., 240l.; "The Tambourine Girl," by J. B. Burgess, 89l. 5s.; "The Halt in the Desert," by Henry Warren, a very large drawing, 60l.; "Dead Game," by Weenix, 39l. 18s.

A NEW THOROUGHFARE FROM FLEET STREET TO THE EMBANKMENT.

WE understand that the recent purchase by the Corporation of the site of the Chartered Gas Company's Works, between Blackfriars and the Temple, will be immediately followed by the construction of a wide and new street from Fleet Street to the Embankment. The land which the Corporation has purchased has a frontage to the Embankment of 266 feet in length, extending westward from the Royal Hotel to the boundary of the depot occupied by the Metropolitan Board of Works; and its depth, to its northern boundary in Tudor Street, is 500 feet, covering altogether an area of 137,500 feet. The Corporation have thus obtained the land at about 1l. 5s. per foot, the purchase money being 170,000l. It is said that the new street is to be 50 feet in width, and that Whitefriars Street will be widened to a corresponding extent from its junction with Tudor Street to Fleet Street. With the view of carrying out this improvement several of the tenants on the west side of Whitefriars Street have for some time been under notice to quit, and already many of the houses are being demolished. The site of the Gas Company's land between the Royal Hotel and the east side of the intended new street is to be laid out for buildings of a high class character, and the west side, adjoining the land occupied by the Metropolitan Board of Works, will also be appropriated in a similar manner, but we learn that the line of building frontage is intended to be uniform with the Temple buildings, and that a considerable portion of the land immediately fronting the embankment will be laid out as gardens similar to those between Waterloo and Charing Cross. Workmen are now employed in taking down the buildings belonging to the Gas Company.

THE ENLARGEMENT OF THE LIME STREET STATION AT LIVERPOOL.

A CONTRACT of stupendous magnitude at the Lime Street Station, Liverpool, of the London and North-Western Company, has just been entered upon by Messrs. Taylor & Thomson, of Manchester. The Company are about to enlarge the station to double its present size. It is at present about 300 feet in width and 900 feet in depth, and the station when enlarged will cover an area of about 15 acres in extent. In addition to this large area the present tunnel between the station and Edge Hill, which is about three-quarters of a mile in length, is to be opened out and widened to the extent of a quarter of a mile, or about one-third its entire length, so as to give additional facilities for the marshalling and the arrival and departure of trains. Duplicate lines of rails will be laid down on the area of the tunnel as opened out and widened, and the additional space thus obtained may be described as belonging to the station, which will thus, when finished, contain an area of from 16 to 18 acres.

The cutting open of the tunnel necessitates the purchase of a large amount of property situated above the present tunnel level, and no less than eleven streets will be intersected, across which an equal number of bridges over the railway will have to be thrown. The estimated cost of the excavation of the tunnel, and the construction of the street bridges, the works for which have just been commenced by the contractors, is 100,000l. The iron required for the bridges will be 1,000 tons in weight, together with 20,000 cubic yards of masonry and brickwork. The quantity of excavation will be upwards of 330,000 yards. One of the bridges—that between St. Vincent Street and Copperas Hill—will be carried across by means of very heavy iron girders, on account of the great width of the cutting at those points. The height of this bridge above the rails will be 46 feet. There will also be a large tunnel bridge, which will cross the line diagonally, commencing at Russell Street, and extending to a little beyond a street called Trowbridge Street. The excavations and bridge-building will be carried forward without interfering with the traffic of the tunnel. For carrying out this object skilful engineering operations have been designed. Shafts will be sunk at the points where bridges are to be constructed, and a heading will then be driven through the rock on each side of the tunnel. The bridges will be erected, and a clearing made, and last of all the crown of the tunnel will be taken off and the sides cleared away. The taking off of the crown will be the most delicate part of the work. This will be done in lengths, and in order to protect trains passing through the tunnel an iron shield will be placed inside for the length required, and moved at night to the next length. All danger from falling debris will thus be obviated, and the traffic will go on without interruption. To facilitate operations, when the heading has been driven through the rock by the side of the tunnel, a siding will be laid for waggons, into which will be filled the stuff excavated, and these will be drawn out and placed on sidings in the new station space during the day, and drawn up the tunnel at night, when the traffic is not so great. The rock in the tunnel is met with at a depth varying from 6 feet to 8 feet from the surface, and is mostly red sandstone, in some places being extremely hard. At some points, where the elevation of the ground surface of the town is considerably above the railway level, the depth of the cutting will be formidable. At Brownlow Street, one of the highest parts in the town, it will be 62 feet down to the rails. It is expected that the excavation works and the bridges will be

completed in about twelve months, when the additional lines will be open and in use.

For the purposes of the enlargement of the station, a large block of property on the south side, bounded by the present station-wall, Copperas Hill, Skelholm Street, and Lime Street, has been purchased, and the houses which stood within the limits, and which were several hundreds in number, have been cleared away, and the excavations, preparatory to the construction of the enlarged station, are proceeding. The whole area of the station will be covered by an iron roof, similar to that of the existing station. The platforms will be greatly increased in number, and greater width given to each. No definite estimate of the entire cost of these immense works has yet been named, but it is tolerably well understood that it will ultimately be more than half a million sterling, the enormous sums paid for the property which has had to be purchased, forming a large item.

The whole of the works have been designed by Mr. Baker, the company's chief engineer.



The Soane Medallion.

SIR,—As I think it right that the attention of the architectural profession should be drawn to the decision of the Royal Institute relative to the award of the Soane Medallion of this year, I take the liberty of writing to you on the subject, feeling sure that the mere cognisance of the circumstances connected with it will at once show its unfairness. In the printed conditions issued by the Institute, the subject of the design was set forth as "A London Residence, situate at the corner of a street, and adjoining houses of corresponding character and plan." Now I think that most of your readers will agree with me that the condition stating that the adjoining houses were to be of corresponding plan, meant that the position and size of the rooms was to be nearly, if not quite, such as could be obtained between party walls, no advantage being taken of the side frontage, except, perhaps, in the position of windows, the assumption being that the side street was an unimportant and perhaps narrow thoroughfare. In three of the four premiated designs, however (including that to which honourable mention was awarded), the entrances were at the side, and I do not hesitate to say that the position and size of the rooms were, in all the three, such as could not, in any degree, be obtained in a house situate between party walls. The conditions stated, moreover, that the frontage was to be 50 feet, and the depth 120 feet, inclusive of front and side areas, &c., and that the only elevation required was to be a front elevation. In the three designs above referred to, however, which were sent in under the mottoes "Soane," "Crux mea Lux," and "Urbanus," the elevations submitted were those of the principal front (*sic*), that is, of the 120 feet side. I need hardly say that these elevations, as well in their extent as in the fact of their being complete designs, had an immense advantage over the real front elevations, which were not only less than half the size, but were, of necessity, imperfect designs, owing to their having to be considered as forming the flanking portion of a terrace, the "adjoining houses" having to be "of corresponding character." Now, Sir, I should like to ask whether it is reasonable to expect fairness in public competitions decided by lay judges, when even the Royal Institute shows itself so utterly incapable of conducting a competition fairly? In conclusion, I may mention that on ascertaining the above facts I wrote two letters of protest, one to the council, and the other an appeal to the special meeting. The fate of the first I do not know; the second formed the subject of a few remarks from the chairman, who, after the vote which decided the matter had been taken, asked the meeting whether it was their wish that it should be read. A contrary wish was forthwith expressed by Professor Kerr and another, the Professor remarking that if any student felt himself aggrieved, he might think himself happy if he met with no greater reverses in the course of his professional life.

8 Lucas Terrace, Bow.

March 23, 1875.

Your obedient servant,

F. P. JOHNSON.

REVIEWS.

LAXTON'S PRICE BOOK FOR 1875. Kelly & Co.

THAT Laxton's Price Book has reached a fifty-eighth edition is sufficient testimony to the care which has been exercised in its supervision for so many years, and in Messrs. Kelly's hands the book has much improved. In addition to the usual detail of prices under every head, it now contains useful tables for calculating wages, memoranda of various kinds, lists of patents granted during the past year, decisions of the law courts, lists of brands on timber, and a mass of other information. The indexes are full, and admit of easy reference. The new edition will be found to be no less useful than the volumes for past years.

SPON'S ARCHITECTS' AND BUILDERS' POCKET-BOOK OF USEFUL MEMORANDA AND PRICES. By W. Young, Architect. Second Edition. London and New York, E. & F. N. Spon.

Of all the pocket-books that have been compiled for the use of architects and builders the handiest and most useful is undoubtedly Mr. Young's. He has rigidly excluded those memoranda and tables so commonly met with, but which are more adapted to mechanical and civil engineers. The little book contains precisely that class of information which is needed constantly by those engaged in building works, and as it is arranged in alphabetical order it can be found without the delay of a moment. The addition of the prices increases the value. Altogether it can be commended as a book which should be found in every architects' and builders' pocket.

LESSONS IN ELEMENTARY MECHANICS. By Philip Magnus, B.Sc.B.A., Life Governor of University College, London. Longmans, Green & Co.

MR. MAGNUS has in this little volume adopted an arrangement which, if different from that of the majority of elementary treatises, is more in accord with the best scientific ideas of physics, and with such advanced books as those of Rankine and practical mathematicians. He commences with the subject of Kinematics or Motion, then taking up Dynamics or Force, Statics being thus the last to be considered. This is not only the more philosophical arrangement, but it has the advantage of impressing on students the relations between Statics and Dynamics, whereas, in the ordinary course, too many young students imagine there is more or less opposition between the laws of both. A position is also given to the doctrine of Energy corresponding to the modern notions of its importance. The explanations of the sections are lucid, however brief they may be; and at the end of each chapter are a number of well-selected exercises. Appended are a series of the latest examination papers. The lessons meet both teachers' and students' requirements as an excellent exposition of the elements of mechanics.

L'ART, REVUE HEBDOMADAIRE ILLUSTRÉE. Hippolyte Heymann, Éditeur, 3 Chaussée d'Antin, Paris.

THE first week of the present year saw the commencement of the new journal *L'Art*, and, judging from the twelve numbers which have been published since, there is no doubt that it is a most valuable addition to the many excellent publications in France which treat of art. The accomplished M. Eugène Veron is editor in chief, the list of writers includes many names familiar to those acquainted with modern French literature, and among the artistic staff are some of the most eminent draughtsmen and engravers. The illustrations are on wood and copper. Every week there is an etching of a large size, generally after some famous painting, and when we mention that already MM. Rajon, Greux, Boilvin, Waltner, Chauvel, Hedouin, and Lançon have contributed plates, no more need be said as to the effectiveness of the style and the value of the etchings. Examples of many schools have been given, one of the best, to our minds at least, being after a Norwich scene by Old Crome. The woodcuts are mostly fac similes of sketches in which the freedom of the originals are preserved. There are also some vigorous drawings of animals after M. Lançon. The articles have the lightness and point belonging to so many French writers, and it is not easy to say which is the more interesting—the literature or the engravings. *L'Art* has taken a special field; it is not to be regarded as an ordinary illustrated newspaper—referring only to topics of the day. While it represents the present by chronicling the current art news, the essays discuss subjects without limitation of time. We fear that as yet there is not likely to be so general an appreciation of such a publication in this country, where there are few amateurs, as in France, where they abound, for in an English journal art has to be introduced, as it were, indirectly, and must be subservient to other things. But at least in every public library, art school, and studio in England, M. Veron's journal should find a place; the numbers would be welcomed every week, the volumes could never become stale.

STUDIES IN DESIGN. By Dr. Dresser. London: Cassell, Petter & Galpin.

DR. DRESSER'S collection of large-sized examples of ornament has now reached its fourth part, and the designs continue to be as suggestive as at first. The introductory chapters are deserving of attention by students, and are characterised by good sense and thorough knowledge of the subject. The last part treats of the necessity for knowledge of historic ornament. It is said "No one, however original in thought he may be, and however subtle in his perception of beauty, can become a great ornamentist unless he has knowledge of what has been done by those who have worked at his art under various influences and at various times. Before the ornamentist can produce work of the highest character—work by which a maximum of knowledge and learning are revealed—he must have understanding of Egyptian, Greek, Persian, Arabian, Indian, Chinese, Japanese, and Medieval ornament at least; and to this should be added an acquaintance with Roman and Italian decorations, although so much of the false is mingled with the good in these two last styles, that the advanced student should alone study them. It is not sufficient that we know the forms used by the peoples of these various countries, and the manner in which they combined these shapes. We must also know the spirit which actuated the designer when producing his work."

TREATISE ON HEATING AND VENTILATING. By John Gibson, Architect, Newcastle-on-Tyne.

THIS little pamphlet was originally proposed to be read before a local society, and from its size and price it is fitted for general circulation. Mr. Gibson maintains, among other views, that with open fire-grates the mouth of the flue might be contracted to such a size as to allow only for the escape of smoke. Instead of having the smoke-door in the top of the stove in a vertical line above the fuel, he advocates the making "the back of the stove above the fire-line of a concave form, inserting the smoke-door in the back immediately above the fire-line, contracted in dimension to allow the escape of such a volume of smoke as the size of the grate is capable of emitting, and provided with a valve for regulating the size of the opening."

General

A Picture Gallery has been opened in Edinburgh, called "The New Exhibition," for the purpose of exhibiting works of art rejected by the Hanging Committee of the Royal Scottish Academy.

Mr. Alan S. Cole, of the South Kensington Museum, delivered an address on "The Contrasts between Ancient and Modern Furniture," at the City and Spitalfields School of Art on last Monday evening, when an exhibition of furniture was opened by Lord Sandon, M.P. It will be open until the 31st inst.

Miss Thompson's Painting of the *Charge at Waterloo* will not, it is reported, be ready for this year's exhibition at the Royal Academy. This picture is being painted for Mr. Galloway in lieu of the *Roll Call*, which he gave up, "by desire," to Her Majesty.

The Society of Painters in Water Colours.—At the general meeting on Monday last, the following were elected as Associates:—1. Mrs. Allingham (Helen Paterson); 2. Edward Radford; 3. Edward F. Brewtman.

The Committee of the Cole Testimonial have authorised the preparation of a decorative memorial tablet, with portrait, of Mr. Henry Cole, in mosaic, also a marble bust; and it is intended to offer these to public institutions. The balance of the amount subscribed will be placed at the disposal of Mr. Henry Cole, upon whom Her Majesty has been pleased to confer the distinction of a Commandership of the Bath, in recognition of his eminent public services.

Sir Richard Wallace's fine collection of paintings and other works of art will be removed from the Bethnal Green Museum directly after Easter.

Mr. Leatham, the member for Huddersfield, is reported to have purchased for 100,000*l.* the estate called Miserden, on the Cotswold Hills, formerly belonging to the late Sir John Roitt.

A Statue of Daniel Manin, by Signor Borro, was uncovered on Monday last in Piazza Manin, Venice.

The Committee formed to erect a memorial of the late M. Corot consists of MM. Carl Daubigny, De la Rochenoire, Daliphard, Damoye Feyen-Perrin, François, De Groiseilhez, Lansyer, Lavielle, Oudinot, and Piégersau. The maximum subscription has been fixed at 20 francs, in order to allow of the co-operation of a large number of admirers of the artist.

A Handsome Stained Glass Window has been erected in the north aisle of Winchester Cathedral, in memory of the Countess of Guilford. The window is the work of Messrs. Clayton & Bell.

The Opera Season at the Royal Italian Opera, Covent Garden, will commence next Tuesday with Rossini's opera "Guglielmo Tell."

Her Majesty's Opera, Theatre Royal, Drury Lane, will commence its season on Monday, April 10.

St. James's Theatre opens this day (Saturday) under the management of Miss Litton.

The Directors of the Alexandra Palace Company have become possessed of the only full-sized copy ever painted of Murillo's *St. Antony of Padua*, the picture which was lately mutilated in so strange a way. The copy is by Salvador Gutierrez de la Vaga, and was made in the early part of the century. It will be among the works of art shown at the opening of the Palace on May 1 next.

The Marylebone Vestry have determined to adopt wood paving in that part of Oxford Street, from Prince's Street to Marylebone Lane, and from Hereford Gardens to the Edgware Road. The system selected is Henson's patent, in which the blocks are laid on a foundation of concrete, with layers of tarred felt interposed between the paving and the concrete, as also between the longitudinal joints, the material being the best yellow deal grooves, and the whole covered with a gritty bituminous composition.

The Death is Announced, in his 38th year, of Mr. Walter Kenward Crisford, Architect, of Hastings, who was in practice with his uncle, Mr. Charles Smith, for over sixteen years.

The Plans of Messrs. Perkin & Son, of Leeds, have been adopted by the Board of Guardians of the West Ward Union for the new workhouse at Shap.

The New Forest Defence Committee intend to hold an exhibition, after Easter, of pictures, drawings, and studies illustrative of the scenery of the Forest, and which "will enable the nation to form a correct estimate of the value for purposes of recreation and art education of its largest estate, a district acknowledged by travellers of experience—foreigners and Englishmen alike—to be absolutely unique."

The Parochial Board of Greenock are about to build a new poor-house and asylum at Smithston, at a cost of about 70,000*l.* The Committee of Management have been empowered to select estimates and make the necessary contracts.

A Public Meeting of the Ratepayers was lately held at South Shields, at which a recent decision of the Board of Guardians to spend 9,500*l.* in alterations and additions to the present workhouse was disapproved of, it being considered better to erect a new building on another site.

An Underground Fire at South Shields has rendered two valuable dwelling houses uninhabitable as well as dangerous to passers by, and on the application of the Borough Surveyor the magistrates have directed that they are to be taken down by the Corporation.

A New Tramway Car, designed by Mr. D. D. Scott Moncrieff, has been tried in Glasgow. The engine is propelled by atmospheric air, and if the invention is adopted it will be necessary to fit up receivers along the tramway routes to supply the necessary air. The experiment was successful.

It is stated that the recent vote by the Liverpool Town Council of 1,000*l.* for a statue of ex-Mayor Walker, in recognition of his gift of an art gallery, is illegal, and the sum will probably be raised by subscription.

An Official Report of the French Budget Committee upon the reconstruction of bridges or by-roads destroyed during the war, shows that 214 bridges have been completed at a cost of 5,183,220*fr.*, and eight are being constructed or about to be begun, costing 190,400*fr.*, while indemnities and other expenses amount to 40,000*fr.*, making a total of 5,413,620*fr.*

DIED.—On the 22nd inst., at Yoxford, Suffolk, in his 47th year, FREDERICK PECK, Architect, late of 36 Gordon Square, London.—[ADVT.]

The Architect.

CIVIC PATRONAGE OF EDUCATION AND ART.



THE illustrations which we publish this week of the new schools which have been built for the Merchant Taylors Company under the direction of their architect Mr. P'ANSON seem to suggest reasonably enough a few reflections upon what is being done by the great Guilds of London for the benefit of education and art.

It has always been a favourite means for the disposal of the surplus wealth of patriotic citizens, in all countries in which trade and manufacture have especially flourished, to devote gifts and bequests, generally small and numerous, but not

unfrequently of large amount, to the excellent object of furthering the purposes of those particular industries by whose operation the donors have perhaps been personally enriched, or by whose success their artistic or scientific predilections have been signally gratified. In more recent times in the City of London, where the great Trade Corporations of antiquity have become transformed in a great measure into select private coteries, and their old vital action in aid of the crafts into the maintenance of a few traditional charities and the exercise of a profuse hospitality, the practice of endowing the "Companies" has still not fallen off, and, if it had, the vast increase in the productive value of their inherited estates has placed them as a whole amongst the wealthiest agencies of the country.

It is certainly to the credit of such corporate bodies that they are so little identified as they are with the seductive rivalries of Imperial politics; and it is claimed to be equally honourable to them that the fact has to be acknowledged of their being on every hand most harmoniously united for the conservation and defence of the municipal rights, privileges, and property, of "the City," against the Town, the Empire, and the World. Their hospitalities, also, pompous and somewhat ponderous as they frequently seem to be, are looked upon by people in general, and especially by that sometimes exacting critic the intelligent foreigner, as being more expressive than almost anything else of the peculiar magnificence and generosity of the true Englishman—the merchant prince surrounded by his customers rather than the hereditary grandee attended by his tenants. But with all this it must be admitted that to the world at large the great City Companies are chiefly known by those splendid gatherings whose practical purpose is understood to be the cultivation of the science of bills of fare. From this impression, however, there is at the present day a manifest anxiety that the civic reputation should be as far as possible relieved. That is to say, there is a growing desire amongst the influential men of the old Guilds, to divert the funds in some considerable measure from the mere exercise of hospitality in order to further the advancement of such departments of science and art as may be considered to fall within the particular provinces of the respective corporations, and on the other hand to promote that most abiding of all generous undertakings—the education of youth.

To take the second of these purposes first, it is perhaps enough to remark that the building of a school for the children of the less prosperous members of any public or private society is an act of which it is impossible to exaggerate the value and importance as a graceful and gracious acknowledgment of those educational claims which rank so high in all civilised countries. The amount of benefit that has been conferred upon the English community at large by the establishment and maintenance of endowed middle class schools has been very great, and we cannot hesitate to include in the category many of those which are supported by public subscription. Such an institution, therefore, as we now see erected by the Merchant Taylors Company, and such as we have seen erected of late years by several others of the London corporations, may be well said to constitute a substantial and enduring monument of the noblest character to the patriotism and liberality of the builders; and we can only express the hope that the edifice before us, and the others that we might name, may turn out from year to year for many generations an ample supply of well instructed youth to be a credit to their patrons.

It naturally follows that the reflection should arise whether anything can be done by the City Companies for special as distinguished from general education. It is doubtless the fact that in the Middle Ages the influence exercised by the corporate bodies which now exist in this form was chiefly of that particular tendency which went to keep up the efficiency of the crafts. We hear a great deal about the "mystery" of this and the other trade in those times, and it is very likely that there existed a certain kind of restrictive regulations which were more protective of somewhat narrow personal interests than provocative of that competitive emulation upon which we now-a-days so much rely; but the general impression which we are accustomed to cherish is that good craftsmanship was fostered and in a manner

even created by the agency of those very guilds, and it can scarcely be denied that if an earnest endeavour were made in our own day to accomplish similar results there is at least a great deal that might be done, directly or indirectly, in one form or another, for the advancement of technical education—perhaps we ought to say the highest technical culture—by means of the prestige and traditional influence of all that remains of the ancient authorities.

There are two ways in which this is to be done with due regard to modern conditions; first, by supporting special technical schools in which young men would be prepared for the several industries in question, and secondly, by granting money for prizes and scholarships in recognition of competitive excellence, and the corresponding promise of increasing merit, in the several descriptions of work. So far as regards the establishment of special schools—or let us say *ateliers*—for particular trades, it is not easy to determine how far this might be found to interfere with the prevailing system of instruction under apprenticeship, which perhaps contributes more than would appear to the purely practical character of the English workman; but we are very much inclined to think that, for the higher branches of artisanship if no more, it might be found advantageous in various ways to give to the best of the apprentices some special opportunities of study. Sir JOSEPH WYATT-WORTH is just now trying an experiment of this kind with engineering mechanics, having made arrangements with King's College and University College in London, and Owens College in Manchester, whereby a certain number of youths of that trade are to be taught at his expense in those branches of abstract and applied science which bear upon their future work. The case is different, of course, with such descriptions of business as are represented by the City Companies, but the question whether something of corresponding effect might not be done by the Goldsmiths, for example, and some others, in another way, is one which we scarcely need apologise for submitting.

The bestowal of prizes, however, for superiority in competition, is very easily managed; and indeed this is a thing which we believe is already done by the Goldsmiths, the Coachmakers, the Saddlers, the Painters, and the Turners, if not by certain other Companies. The object here is to encourage, each in its own trade, palpable excellence of design and workmanship. To illustrate the principle in view, the case of the Turners' Company is especially worthy of note. The work of the lapidary, it seems, is included amongst other things in the field of this apparently unpretending guild. Now in the early part of the eighteenth century the diamond-cutting of England was the best in the world, and it is to this day not very clearly understood why this country should have fallen behind Holland in such an art. At any rate the argument is urged that what English hands could do a hundred and fifty years ago they could do now if the opportunity were fairly afforded them. Prizes are therefore offered by the Turners' Company—and, by the way, Lady BURNETT-COURTS here lends them the aid of her name and her purse—for "Lapidaries' work in cutting diamonds, rubies, sapphires, emeralds, topazes, &c." Gentlemen of the highest eminence in the particular art in question are found willing to sit in judgment upon the works submitted; and it appears that no less than ten prizes were, on the last occasion, duly awarded; this singular result occurring *inter alia*—that the leading prize, consisting of a silver medal carrying with it the Freedom of the Company (and of the City of London) was won by an apprentice of nineteen. If anything can spirit back to England out of the hands of the Dutchman the charming accomplishment in question it ought surely to be an effort so well conducted as that of the Turners and a success so piquant as that of this apprentice lad.

To say no more of what else is being done by some of the Companies, or even of what is reported to be under the serious consideration of certain others, we may take leave at any rate to point out a principle upon which we think a general system of action might possibly be based with effect. As regards the various kinds of artisanship in the precious metals and in gems, in the wide field of furniture and decoration, in the highest walks of building work, and the like, it is probably artistic design rather than construction or other science which asks for such patronage as the old guilds can provide. But there are other departments of business to which others amongst the companies may well devote their attention for the encouragement of science rather than art. Even the great corporation of the Fishmongers, for example, might in this view of the case be found good work to do, forasmuch as the culture, conservation, and general study of the important edible from which they take their name must be admitted to stand a good deal in need of effective and authoritative encouragement. If, again, the powerful guilds of the Merchant Taylors and the Haberdashers were to take up in earnest the whole question of dress masculine and feminine, and to endeavour to turn attention especially to certain points perhaps substantial rather than superficial, the results might possibly be more highly satisfactory than we are prepared for, inasmuch as the professional dictum of the trade, if led into the proper groove, is better than all the amateur criticism in the world. In like manner we might submit suggestions with reference to many other questions equally important to the public of a country like England, but the subject is in fact too large. We can only offer in conclusion our sincere acknowledgments to those of the City Companies which have already begun this good work, and our heartiest encouragement to all others which may be disposed to follow their example.

THE ARCHITECTURE AND COSTUME OF SHAKSPERE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

The Merchant of Venice (continued).

I SAID, at the commencement of my notes on this play, that in fixing 1590 as the date of the action there was a reason which would appear later on. The "reason" lies before me as I write, in the form of a small thick book,* bound in well-worn crimson velvet, cut on cloth of gold, and of that large counter-changed pattern VERONESE and TINTORETTO delighted to paint. On the title-page I read, "*Habiti Antichi, et Moderni di tutto il Mondo. Di Cesare Vecellio.*" The letter of dedication is dated at Venice, October 9, 1589, or just one year before the date I have assigned to the play. The work is divided into twelve books, making a total of 505 pages; of these, 228 belong to the first book, which is devoted to the costumes of Italy, and 81 of these to the then modern costumes of Venice. These 81 illustrations may therefore be accepted as unquestionable authorities, but of the correctness of the antique I entertain considerable doubt, and many of the non-Venetian examples, though modern, seem to me to demand verification. However this may be, one cannot but recognise the enormous value of such a work, and with this book in one's hand, the paintings and prints in our public galleries and the materials at South Kensington to refer to, error in the costume of the Merchant of Venice would be quite inexcusable, for it must arise either from sheer carelessness or childish incompetency to handle the facts.

Of other authorities besides VECCELLIO we have, before all, TINTORETTO, who died in 1594, and who was 78 years old when the Merchant of Venice was written; BASSANO, who died in 1592, was 80 years old at the time; ZELOTTI was 58; ALLORI and RUBENS were both boys of 13. VERONESE had been dead two years, MORONI twelve, TITIAN fourteen, and BORDONE nineteen, before the play opens. I should therefore be inclined to limit the range of authorities for Venetian costume to—

VECCELLIO . . .	—	1589
TINTORETTO . . .	1512—1594	
BASSANO . . .	1510—1592	Nat. Gall., 173.
ZELOTTI . . .	1532—1592	Nat. Gall., 595.
VERONESE . . .	1528—1588	Nat. Gall., 26, 268, 97.

There are also four folio plates, drawn and engraved by J. AMMAN, representing the procession of the DOGE, which may be consulted as explanatory of the subject shown in the 148th engraving in VECCELLIO.†

Of the costume of the main land, of the ambassadors of foreign States, of the traders of divers nations, from the north, south, east, and west, who flocked to Venice, VECCELLIO may be taken as an authority in some measure; but wherever possible, it would be well to test the Venetian by reference to sculptures, paintings, engravings, or embroideries executed by the people to whom he refers. For instance, the *Donna Nobile della China* is pure invention, and the same may be said of some of the other illustrations of the dress of nations far removed from the waters of the Adriatic. Taking the characters in the order they occur in the list of the *dramatis persone* we have—

I. The Duke of VENICE. There are two illustrations in VECCELLIO of a "modern" Doge, one $4\frac{1}{2}$ inches high the other only $\frac{1}{2}$ inch. Comparing both with AMMAN's engraving and contemporary paintings, we find the dress to consist of an ermine cape or tippet reaching to the elbow, shaped with a slight upright collar, entirely open from the throat downwards, and having six large buttons on the left edge. These buttons were sometimes very costly, and always important features. BENVENUTO CELLINI (ob. 1561) made some of gold, set with precious stones. And in AMMAN's engraving the button has four stones set round it and one mounted in the centre.‡ Under the cape appears a robe or cloak, with a train. In VECCELLIO's procession (p. 148) the train is borne by one of the Doge's esquires, whilst another holds over him the canopy of state—a large heavy umbrella sort of structure, shown in detail by AMMAN. The robe is covered with a large rich pattern of conventional branch and leaf, and a similar pattern is seen on the gown. This last-named garment nearly touches the ground, has large open sleeves reaching below the knee, is trimmed with fur, is open down the front, and gathered in at the waist by a belt. On the head was worn the curious horn-shaped biretta, which is the great distinguishing mark of the Doge in works of art subsequent to the Byzantine period, and beneath this a closely-fitting white cap, coming down under it so as to cover the ears and the back of the head. Strings were attached to the front edges of this cap, sometimes tied under the chin, but often allowed to hang loose. The ordinary or everyday biretta was of red velvet with a deep border of gold embroidery. The State ones had jewelled borders, and crests of gold knobs or jewels on the top of the border

and edging the central line or seam from the front to the back. But we must not suppose that the Doge of Venice had only one dress. Besides the State full dress above noted, and others regulated to various occasions by the etiquette of the time, there were gowns and mantles suited by their material to the various seasons of the year. The dress, however, which SHAKSPERE's Doge would have worn would most probably have been a gown and robe of crimson (purple) velvet, embroidered with gold or cut on cloth of gold. But whatever the colour of the robe may be—crimson and gold, white and gold, white and silver, &c.—the biretta must be of the same colour and material, except only in its deep border or band, which is chiefly of cloth of gold woven with an Eastern pattern, probably made in Damascus; although on great State occasions we sometimes find this band set with jewels. The tippet was part of the full dress, and would not be worn in the play, or indeed except on very important days, such as when the chair of State was borne aloft before the Duke.

The Prince of Morocco, dressed like other noble Moors, would wear a loose and full white cotton gown with capacious sleeves and high neck, girded with a sash of delicate crape-like material full of coloured stripes and gold, the ends of which were deeply fringed and hung as low as the knee. On his head he would wear a spotlessly white low turban, shaped like a small pillow, bound round the centre with a broad band. The skirt of his dress would be tucked through his girdle, hanging therefrom in irregular and graceful folds nearly to the ground. On his legs appeared red Morocco buskins, and his shoes were of leather of another colour, both often richly embroidered with gold and silver. Large rings of gold depended from his ears, and across his breast glittered his leathern sword belt, loaded, I might almost say clogged, with precious stones ("*ad pectus uerò fascia gemmis magni precii onata inter currit*").

The Prince of ARAGON would be dressed like a noble in the Court of the King of Spain, for Aragon was no longer an independent kingdom, but had been united to Castile, to which Granada and, in 1512, Navarre were also added. The most important points to be noted in this costume is the shortness of the trunk, which are only just visible below the doublet, the short cloak, and the increased length of the skirt of the doublet. Ruffs appear round the neck and wrists, and on the head a tall bag-like hat with very narrow brim. The cloak was usually of "purple" (crimson) silk or velvet lined with costly material, sometimes richly embroidered with gold. It was worn occasionally with a hood, and was often wrapped round the breast in a careless-looking but eminently artistic manner.

BASSANTO, described in the text as a lord and a fit suitor for the hand of the Lady of Belmont, is one of the nobles of Venice, and would be dressed in doublet, trunk hose to below the knee, stockings and shoes, and over all in the house a houppelande, with hanging sleeves of much the same shape as that worn in the fifteenth century. (Compare VECCELLIO, p. 86, and MS. Bib. Nat. *Girart de Nevers*, an illustration from which is given in the *Dictionnaire Raisonné du Mobilier*, vol. iii. p. 466.) But abroad he would change the over garment for the large-sleeved gown or toga. The cream of the aristocracy, that is the chiefs or heads of the leading families, adopt, commonly, crimson for the colour of the under-dress, and black for the gown. If a noble is also one of the greater officers of the State, the sleeve is open its full depth, but otherwise it is closed tight round the wrist, not unlike the neck of a sack. Gloves, having stiff wristbands attached, are worn or carried in the hand, and the cap is a plain, round, flat-topped, limp sort of pork-pie hat. The gown was shaped at the neck so as to produce a stand-up collar, and over one shoulder was worn the long narrow strip which distinguished nobles and magistrates—altogether not a very picturesque costume.

SOLANTO, SALARINO, GRATIANO, and LORENZO may, on the other hand, be attired in eminently picturesque dresses. The long gown reaching to the feet, with its ugly baggy sleeves, forms no part of the ordinary Venetian habit. The scholars and young gentlemen wore short cloaks, with collars, slashed doublets thick set with buttons down the front, slashed sleeves, rather easy in the upper part, but tight in the forearm, slashed trunk hose, with three or four buttons at the side of the knee, stockings, and light alipper-like shoes. Round the neck they wore ruffs like that adopted in Spain, France, England, and indeed all Western Europe, in the last quarter of the sixteenth century. The hat or cap was a tall bag-like structure, with a stiff narrow rim. They wore ruffs at the wrist, and carried swords.

ANTONIO, the Merchant of Venice, with whom we may also class SHYLOCK* and TUBAL, for the difference between them was only in the colour of their caps, would be attired like any other merchant, i.e. in doublet, trunk hose, stockings, and shoes, old men wearing over all a gown reaching to the heels, with sleeves tight in the lower arm and loose above. The gown was fastened in front from top to bottom with buttons and button holes sewn in braids, and the skirt was open at the sides, fastened by four or five buttons at the bottom likewise on braids. It was girded at the waist with a silk sash having small tassels depending in front. Over the dress, gowned or not, was worn a large cape or short cloak of silk or brocade, light or heavy according to the season, with a collar as before mentioned. Round the neck the merchant wore a ruff, and ruffs again appear at

* I am indebted to my friend Mr. Wm. Burges for the loan of this book; a modern edition of the work has been published in Paris.

† At Hampton Court is a curious painting by Fialette, representing the English Ambassador, Sir Henry Wotton, in audience with the Doge, that would be useful in many ways to any one preparing this play for the stage.

‡ They were about the size of a walnut, sometimes globular and sometimes shaped like a pine apple.

* The gaberdine is only the Spanish word for his gown.

the wrists. The cap was sometimes high and hat-shaped, with a narrow brim, and sometimes flat and largely projecting like the modern Scotch cap. Like also to the nobles and other Venetian gentlemen, they indulged in the luxury of gloves. The Jew was distinguished from the Christian by being compelled to have his cap made of a tawny yellow material, sometimes so tawny as to appear almost like a faded red.

LAUNCELOT GOBBO, as the Jew's servant, would not be a servant in livery, but would have a plain doublet, not unlike a Norfolk shirt in general outline, trunks, stockings, shoes, and a high cap with narrow brim. As BASSANIO's servant, he would be in livery like LEONARDO, or BALTHAZAR and STEPHANO, servants to PORTIA, whose doublets would be covered with guards, or braids and buttons set very closely together.

Old GOBBO would wear a kind of blouse with turn-over collar, cut down to the waist in front and tied together with two or three bows. The skirt would be open at the sides, belted round the waist with a leathern strap, and beneath it would appear the ends of loose breeches, bare knees, turn-over coarse stockings, and tied shoes. The neck and throat were bare.

JESSICA, as the daughter of a rich merchant of Venice, would be dressed in the ordinary costume of a Venetian gentlewoman. A tightly-fitting body, square cut neck before and behind, waist high at the sides and coming down low to a point both before and behind; the body laced across a stomacher; frilled shoulder-pieces; sleeves loose above, and tightly fitting to lower arm; lawn or cambric ruffs at the wrist; flowing skirt; a necklet of pearls; slipper-shaped shoes, raised on sloping chopines; front hair arranged in short massive curls on forehead, the rest strained back and done up in plait, from which depended the veil, that in the costume of a Jewess would be yellow. The dress was of no particular colour, and the skirt underneath was open in front, and tied together at intervals.

PORTIA would do her shopping probably at Padua, and would therefore follow the fashions of the main land. The chief difference we have note of is the absence of the square-cut body. High-necked bodies, with fine cambric ruffs, was the every-day attire usually worn by Paduan ladies of noble birth. On state occasions, on festivals and at receptions, the dress, though still high on the shoulders, was open in front, terminating at a point a little above the waist. There is also a marked difference to be observed between the dress of a maiden and that of a married woman, and there is no question that the Paduan ladies (wives or not) indulged in a considerably extensive wardrobe. So, too, there was more than one mode of dressing the hair.* In some cases it was crimped, parted in the middle, brought round to the back over the ears, and rolled up *a la grec*, in others it fell loosely down the back *au naturel*, confined, however, at the poll by a delicately-wrought band or tiara of goldsmiths' work; but the more usual plan was to arrange the front hair in massive curls, assuming somewhat the form of a couple of low horns, and carried down each side in smaller curls to the ears, the hair behind being strained (sometimes crimped), and fastened up into a plait, with strings of pearls interwoven. From this plait depended the veil, which sometimes also appears to have covered the head up to a point between the horned curls or rolls, over which it could be raised like a double hood. The veil itself was also worn in various ways, and as it was often arranged with the utmost grace, and made of the finest material—a sort of silken gauze, enriched with gold, interwoven and even sometimes embroidered and decorated further with pearls and gems—its lovely film-like effect, like an iridescent mist over the rich materials of the gown, can be better imagined than described. The gown, with the exception already noted, was cut like the Venetian dress, and was made of silk, brocade, gold cloth, or costly velvet. Over the shoulders was worn a chain, usually of gold set with jewels, and suspending a large jewel or cross. The pouch or gipciere worn at the girdle was not quite yet abandoned, and PORTIA may wear one or not as she pleases. In addition to this brides and married women wore a gold chain following the triangular lines of the waist, and hanging down in front as low as the knee. Gowns with the skirt open up the front and with loose hanging sleeves were also used by the "Sposa di Padoua." Rings were worn on the first, third, and fourth fingers. Earrings of pearls and jewels appear, and sometimes we see a string of pearls one end attached to the ear and the other looped up to the back hair. The veil is occasionally omitted, and a stiff semi-circular collar of lace is seen standing up behind the neck and reaching as high as the poll.† PORTIA's stockings would be of silk or the finest thread worked with clocks and even open seams. Her shoes, of slipper form, would be of morocco or of velvet embroidered with gold, cork being used for the soles. On her journey to Venice she would use a velvet mask or visor, and gloves highly perfumed and embroidered with gold or silver. A pocket looking-glass, with ladies of rank, was not an uncommon possession, and was sometimes set in the back of the fan, which was usually made of nine or more ostrich feathers, the handle set with pearls and jewels and fastened to the end of the girdle-chain, if the lady was married. The pocket-handkerchief was of large size, and of fine cambric, having an embroidered border, and a tassel at each corner. Finally, in going abroad ladies wore, in the winter and

later autumn, a mantle or pelisse over the gown, reaching to below the knee, open in front to the neck, and with long, loose, open, hanging sleeves. Over this came the veil, and a round velvet hat with a broad brim completed the costume, whose chief glory consisted in its richly embroidered or woven or cut patterns.

NERISSA, "the waiting maid,"—or, as we should now call her, *the lady's maid*—must be dressed as the confidential servant of a noble and wealthy lady, neither too rich nor yet too poor. There will still be the ruffs at neck and wrists, but of less delicate material than those on PORTIA; the skirt of the gown will be shorter than her ladyship's, and there will be an absence of ornament, except perhaps as a border to the dress. She must wear a ring or two, and from her girdle would hang a pouch and hawwife. She would also have a short veil of plain lawn or cambric, which she might use as a hood, pinned under the chin.

Of the costume of the scores of men and women, from the "magnificoes" and ambassadors down to the porters and beggars who might fill up the stage picture, CESARE VECCELLIO may be consulted, for he gives us abundant illustrations of all sorts and conditions of men, both foreign and native. There is one professional dress which, however, we must not forget to note, and that is the official costume of a doctor of laws—the character assumed by PORTIA in the fourth Act. The D.C.L. of Padua wore a tight doublet, silk belt, trunk hose, and stockings, all of black; velvet in winter, silk in summer. Over these he put on his official robe or gown, ungirdled, having an upright collar and long capacious open sleeves reaching nearly to the ground. This was made of velvet, silk, or damask, covered with rich pattern, cut, embroidered or woven according to the nature of the material.* On his head he wore a tolerably high cap, made with a narrow brim and a flat top, and on his feet were seen the usual slipper-shoes. His clerk would wear a black cloth doublet, trunks, stockings, and ruffs, but no robe or gown.

In conclusion, we should remember that PORTIA has the golden hair so much admired at that time, that the officials in a Venetian Court kept their hats on although in presence of the Doge, that the manners of the period were characterised by courtesy combined with a stately dignified action, and that what we call stiffness of manner was then regarded as quite the correct thing. But modern actors and actresses rarely hold the mirror high enough to reflect the mien, deportment, or bearing of the men and women of a past age. The air or look of gentlemen and ladies during the great period of the Renaissance can be ascertained from the documents and the pictures of the time, and if an actor fails to reproduce it he is not fitted to play in the comedies of the great dramatist of that period. Correctness of costume, and scenery, and properties, and furniture is all very well, but if, through it all, we see nineteenth-century action, modern style, the mode of Robertsonian society, or the special graces and charms which are the delight of our own time, but which would have been looked on as antics, or at the least as bad form, in the Courts of PHILIP or ELIZABETH, then the picture must be discordant, and the dramatic representation woefully incomplete.

SAN GIMIGNANO DELLE BELLE TORRE.

BY A CORRESPONDENT.

THE railways which now carry the traveller between the great cities of Italy leave out of the sound and influence of their blatant traffic many a quiet and lovely shrine of art among the mountains and valleys of Tuscany that in the old days of vettura journeys would have tempted him to turn aside and do pilgrimage. Such a shrine may be accounted the little town of San Gimignano, where LIPPO MEMMI painted in the town hall a *majestà* that was a rival to the greater work at Siena, and where BENOZZO GOZZOLI adorned the church of Sant Agostino with a choir full of frescos from the life of the saint that still witness to the power of his prime.

To reach San Gimignano you stop two-thirds of the way between Pisa and Siena at Poggibonsi, a picturesque little town built in scrambling fashion over a steep hill in the midst of a rich vine-bearing country just on the borders of the province of Siena. There is an inn here, held, after Italian fashion, by a family of all ages, at one end of which rules the patriarchal grandfather, and at the other crows an infant in swaddling clothes. The place is dirty and odorous of ill savours, but the beds are clean, and the landlady most civil and honest. Into her hands we placed ourselves to secure a carriage for the drive to San Gimignano, and on a misty morning in the early days of August a "brav' Giovane" with a little horse and trap appeared at eight o'clock to take us up the mountains. The road lies first along the valley, following the windings of the torrent Foci, marked by alders that shook their silver and grey leaves sadly over the now dry and stony bed. The hills on either hand are clothed with vine, the pearly-toned olive and stately processions of cypress, with here and there the dark crowns of the stone-pine; the sandy soil is a soft rosy ochre, passing into yellows and purples; the fields rich with vines and Indian corn. Much of the land hereabouts, together with a villa residence on a wooded hill, belongs to the Duchess of CASERTA, Princess MARGHERITA. For miles we trotted along, expecting every moment to catch sight of

* False hair (as the text shows) was by no means unusual.

† Venetian point was highly esteemed. Some specimens are in the Entrance Corridor at South Kensington.

* All the patterns cut on velvet or in brocade and damask were large. I have seen none which could be drawn within less compass than 12 inches square.

our goal, when suddenly, far above, between two hills, appeared the town of San Gimignano set against the sky, fantastic as if dropped down from Heaven during the night. The road winds steep and slow to the gate, and up still through the quaint narrow streets of the town which is built on the very pinnacle of the hill. In the high heart of it is a little piazza, one side entirely filled by the Pieve or collegiate church, and its steep flights of steps, another darkened by the Palazzo del Podesta. San Gimignano is called "delle belle Torre," and five out of the thirteen towers overlook this little piazza, square brick erections lifting their grim lengths into the sky, with the storms of six centuries scarred on their rugged sides. The Torre del Comune is raised over an arch, and runs up some 175 feet. The principal street climbs up from the eastern gate into the piazza and down again to the western, and outside here is a sort of "campo" on the hill side, where this day a cattle fair was held. In the burning sun hundreds of great white bullocks stood patiently, their horns and broad faces decorated with gay netting and tassels, and herdsmen in scarlet caps, or big straw hats, and bright waist-sashes, lounging beside them. The main street was thronged with country folk, the bread shops and cafés were full, though there was very little to eat to be got; a large trade went on in the buying and selling of boots, a favourite feature of Italian fairs; and an improvisatore of the wildest and roughest description gathered crowds to listen to an interminable ballad. In the great church services went on perpetually up to twelve o'clock, and we found it difficult to pursue any study of the frescos with which the interior is covered.

The chapel of Sta. Fina, in the right transept, was painted by DOMENICO GHIRLANDAJO, with miracles from the life and death of the saint, and the frescos are in tolerable condition. No fuller or more noble composition exists from GHIRLANDAJO's hand than the scene of the child-saint's funeral, where she lies on the bier surrounded by priests and choristers, a bishop reads service at the head, a nun bends over to look at her, and a boy kisses her foot. Behind on either side are the towers of the town in the distance, and an angel tolls the bell in one of them. This is the finer of the two compositions, yet the opposite fresco of the Saint rising on her couch to behold a vision of St. GREGORY is full of tender grace and earnestness. The colour is broad and rich throughout, and has been little tampered with. Those arch-critics, MM. CROWE and CAVALCASELLE, speak with enthusiasm of the "exquisite of sentiment" and "high principle" which elevate the sincere realism of these noble frescos. The chapel was further decorated by GHIRLANDAJO's pupil MATNARDI, himself no mean artist, as a painting by him in the choir of a Madonna and Child surrounded by saints, testifies. The aisle walls of the church are covered by badly-restored frescoes of BARTOLO DI FREDDI, the fellow-worker of ANDREA VANNI and of BARNABÀ DA SIENA, both dating in the later half of the fourteenth century. The scenes from the Old Testament by BARTOLO, though repainted inches thick, indicate the coarse vigour, the realistic inventiveness in which he followed PIETRO LORENZETTI. The Passage of the Red Sea has a praiseworthy attempt to render horses and mules in natural attitudes. In the History of Job the appearance of the accusing SATAN before the Eternal reminds one of the famous figure by FRANCESCO DA VOLTERRA in the Pisan Campo Santo. The New Testament series by BARNABÀ reveal another and more spiritual phase, and many figures have the sweetness of the purer Siennese art, with also its tendency to exaggerated action. TADDEO DI BARTOLO, who dates between 1363 and 1422, also worked here, and the Paradise and Inferno at the western end show that traditional arrangement which was consecrated by the genius of ORCAGNA. The Inferno, which is severely commented on by critics for the intrusion of abominable passages, contains also some fine figures expressive of despair. At this same end of the church, on the western wall of the nave, is a large fresco by BENNZOZZO GOZZOLI of the Martyrdom of St. SEBASTIAN, with a row of Apostles and God the FATHER above; into the last figure a window has been ruthlessly inserted. The fresco is not of GOZZOLI's best—out of drawing and wanting life. But it is interesting to see him in this church, where the schools of Siena and Florence meet as it were in the artists who decorated the aisles—in the great Florentine master, D. GHIRLANDAJO, and BENNZOZZO himself.

To see the work of GOZZOLI at Sant Agostino was the chief object of our excursion to San Gimignano. The church, which was built in 1280, stands in the lower part of the town, and is constructed—as is the case with the earlier churches of the monastic orders in Italy—with a wide nave, without aisles, and a transept with chapels, of which the central one forms the choir. It is on the walls of this choir that GOZZOLI painted, in 1464-5, the seventeen compartments in three courses, which carry the life of St. AUGUSTINE from his school-days to his death. It would be wearisome to the reader to describe in detail these delightful compositions, which are GOZZOLI's finest creations, next to the decoration of the Riccardi chapel, between which and the frescos of the Campo Santo they come in point of time. They show the artist still under the influence of the simple and pure art of FRA ANGELICO, yet in development of his own sprightly and fanciful homeliness, while the common and even vulgar naturalism of later days has not yet commenced. GOZZOLI has what might be called a gossiping way of depicting a story. He introduces little incidents that force into reality the pictured scenes; his manner brings conviction: he is happy over his subject, has a tender heart for human joys and sorrows, and a free and confident power of expression. He keeps the individuality of

his principal characters well sustained: St. AUGUSTINE is the same bold, earnest figure, whether as a "brav' Giovane," setting off on his journeys in full splendour of youthful finery, or alone under the tree reading Scripture at the command of the Voice, or even when lying low on his death-bed. The same with STA. MONICA, the mother, who, indeed, in the scene in which the parents bring the little AUGUSTINE to school, is one of the most gracious and spiritual figures GOZZOLI ever conceived. The frescos have suffered; the blues especially are gone, but as a whole the series is little touched by time or restoration. The single figures on the choir arch are finely studied, especially the Angel and TOBIT, STA. FINA and STA. MONICA. Besides these choir frescos, there is another and previously-executed painting over an altar in the nave, on the north side, representing St. SEBASTIAN as protector of the people during the pestilence of 1364. He stands on a pedestal, with folded hands, not nude, as a martyr, but fully draped. His great blue cloak, sown with golden stars, is upheld by angels over the people, men, women, and children that kneel at his feet; angels hold a crown over his head; above, CHRIST and the BLESSED VIRGIN intercede for mercy with God the FATHER, who appears about to launch a thunderbolt. This noble composition is said by CAVALCASELLE to be a repetition of an earlier work at Montefalco, and is designated "trivial" for no reason apparently but that critic's usual mode of detracting from GOZZOLI's merit. This painter is quite a *belles-lettres* with him. A few Siennese pictures add interest to the church, and there is a lovely marble shrine of BENEDETTO DA MAJANO's workmanship.

Out of the church the heat was intense, and the climb up to the piazza again weariness to the flesh; but we had yet to see the Sala in the Palazzo del Comune or del Podesta. As the custode was having his dinner at a café, and refused to leave it, the only resource was to sit down on the cathedral steps, in common with the most distinguished visitors to the fair, and watch the vendors of crockery in the centre of the piazza go into fits of descriptive eloquence over their wares for the benefit of a quite unappreciating public. Not a single article was sold during the half-hour we looked on, but when the custode appeared and took us into the town hall four men were still unweariedly appealing for custom with hot faces scarlet from the exertion, and gestures worthy of the tragic stage. Two flights of steps, steep as ladders, landed us in the Sala, where now a few fine pictures from suppressed convents or secularised churches form the picture gallery of San Gimignano, and where above all still decorates the wall the stately *maiestà* of LIPPO MEMMI, painted in 1317 under the order of the Podesta, MINO TOLOMEI, of Siena, who had sought to emulate the famous fresco in the Sala del Consiglio in his native town, Siena, painted by SIMONE MARTINI. The two frescos are much alike in composition, having the Madonna and Child serenely and regally enthroned beneath a canopy in the centre, and groups of saints and stately personages on either hand, all painted with much careful magnificence of rich drapery, and gold upon a golden architectural background. This fresco with its detail of ornament, its finesse of execution, and flat treatment, has been called a vast miniature, characteristic of the mannerism of LIPPO, who was a skilled miniaturist; yet the composition is broad and simple, and the whole effect imposing. GOZZOLI retouched and repaired the fresco in 1467, and added a painted framework.

This fresco speaks of the days when mediæval Gimignano was rich and powerful, when DANTE came from republican Florence to ask its aid in the Tuscan league, and great artists were proud to adorn its churches and palaces with their work. The place, now deserted and dwindled away, still wonderfully retains its mediæval aspect. Crowning the hill top with its thirteen great towers, it seems to bid grim defiance to the country round, and to keep a sturdy picturesqueness wholly individual. While we lingered in the town the oppressive heat of the day broke into a terrific thunder storm that turned the steep streets into torrent courses, and flashed in vivid lightning about the dark towers. It was impossible to help fancying with what a crash the five giants would come down and choke up the little piazza, as the wind whirled and howled about them. But that day was not to see the catastrophe. In an hour or so the storm clouds cleared away from the west, and a burst of sudden sunshine flooded every nook and cranny as we drove down the hill. After the rain all green things rejoiced; the rich soaked earth was full of deep colour, the streams dry in the morning were now foaming torrents, the vines hung in tangled masses of bright foliage, the ranks of Indian corn were beaten and bent to earth. Great thunder clouds rolled back above the hills with lustrous curves and folds of purple, and left clear spaces of sweet faint blue between. Trudging wearily home went the files of white bullocks, their poor owners bearing downcast faces at the ill-success of the fair. Above on the hill the towers of San Gimignano glowed golden against the sky.

The Designs of Mr. William Dawes have been selected by the Manchester School Board for the new schools for the Rochdale Road District. The second premium was awarded to Messrs. Medland & Henry Taylor, and the third to Messrs. Royle & Bennett. The schools will accommodate 900 children, and will cost about 5,000*l.*, the limit assigned being 5*l.* 10*s.* per child.

DR. SCHLIEMANN'S DISCOVERIES.*

"EVERY one must admit," says Dr. Schliemann, "that I have solved a great historical problem, and that I have solved it by the discovery of a high civilisation and immense buildings upon the primary soil in the depths of an ancient town which throughout antiquity was called Ilium, and declared itself to be the successor of Troy, the site of which was regarded as identical with the site of the Homeric Ilium by the whole civilised world of that time." In writing this the enthusiastic explorer of the Hill of Hissarlik was too sanguine. He was carried away by his own convictions, and must have overlooked the fact that the history of the Homeric poems shows that it is almost impossible for scholars to agree upon any point concerning the Iliad and the Odyssey which can admit of discussion.

Ten famous towns contend for Homer dead,
Through which the living Homer begged his bread,

and this was but the commencement of controversies which, in one shape or another, have been sustained for over two thousand years, and are likely to endure as long as the world contains men who cannot be oblivious of what is past, and who are not deficient of faculties fitted for reasoning and inquiry. The scholiast Dorotheus, they say, exhausted his life in endeavours to determine the meaning of one Homeric word. How, then, could it be expected that sceptics should at once suspend their doubts upon the most essential points in the whole controversy, and agree that there was a real Troy and a real Homer (who was a topographer as well as a poet), because a merchant who looked upon the Homeric poems with the same reverence as on his Bible, spent three or four years in excavations, and at an outlay of 10,000*l.*, discovered some walls of masonry, a large number of earthen vessels, and a mass of partly consumed metalwork? The unanimity as to the effect of his labours, which Dr. Schliemann anticipated, is not likely ever to be realised. But, if there is hesitation in accepting the conclusion that he has disinterred the site of Troy, and has identified the Scaen Gate, the Palace of the Trojan Kings, and the very spot from whence Helen pointed out the Grecian chiefs to Priam and his councillors, at least he is justified in saying that he has revealed a new world to archaeologists. By researches on the summit of the mound of Hissarlik, within an area of less than three acres and at a depth of about 50 feet, he has discovered evidence of the existence of four races of settlers, each having attained a different degree of civilisation, and all of them being pre-historic. The steps which led to this are shown fully in the handsome book now before us, in which Dr. Schliemann narrates the whole story of his labours in such a way that the reader is placed as it were in the explorer's place, and can realise all the variety of feelings which possessed him at every stage of the investigation during the years he was superintending the work. It

would be out of our power to follow Dr. Schliemann through the whole range of his discoveries with any attempt at detail, but an outline of the results, however meagre, may not be without some interest.

"The site of Ilium," says Dr. Schliemann, "is upon a plateau lying on an average above 80 feet above the plain, and descending very abruptly on the north side. Its north-western corner is formed by a hill about 26 feet higher still, and is about 705 feet in breadth and 984 in length, and from its imposing situation and natural fortifications, this hill of Hissarlik seems specially suited to be the acropolis of the town. Ever since my first visit I never doubted that I should find the Pergamus of Priam in the depths of this hill." The substratum of the hill is a shelly limestone, and Dr. Schliemann supposed at the commencement of the exploration that to reach the site of Troy it was necessary to work down to the rocky base. In the course of the cuttings, however, it was made plain that Troy did not lie so deep, as the débris of a still earlier city intervened between it and the limestone. The débris above the substratum varied from 46 feet to 63 feet in depth, and for removing this the method adopted was by a series of transverse cuttings passing vertically through the mass. These sections thus revealed a series of strata corresponding with the various peoples which inhabited the hill.

There is some historic evidence in relation to the upper stratum. A Greek colony is supposed to have been established at Hissarlik about 700 B.C., and to have continued in the place until 361 A.D., a period of 1061 years, which is represented by 6½ feet of *débris*, hardly a seventh of the entire depth. Dr. Schliemann calculates that the city may have contained 100,000 inhabitants. In this stratum remains were found of the Hellenic houses, the walls consisting of hewn stones (in the upper part of the stratum they were united with cement or lime). There were many copper coins. A few examples of bronze were found, such as scythe-shaped knives, a double-edged axe, nails, a cup, and lances and arrows, and the only objects in iron were a key and a few arrows and nails close to the surface. An immense number of round pieces of terra cotta of various colours were met with. Each had two holes, and sometimes there was a figure of an altar, a bull, a swan, a child, or two horses. There is no clue to the purpose of these things, and they are not met at a lower depth than 2 metres. Several slabs of marble were found containing legible inscriptions in Greek, and in one place beside an inscribed pedestal of black slate there was a statue of an orator nearly 4 feet high, the inscription recording that it was wrought by Pytheas of Argos, and erected by the Ilians in honour of Metrodorus, the son of Themistagoras. A Temple of Athena stood in the city, and a number of fragments of Corinthian pillars, as well as of sculptured blocks of marble which most likely formed part of it, were discovered, and their removal caused great trouble and loss of time.



But in one respect the most important of the fragments met with in the Greek *débris* was a block of triglyphs 6½ feet in length and 2 feet 10 inches high, the intervening metope of which contains a marble relief of Apollo with the horses of the Sun. We are indebted to Mr. Murray for the woodcuts which illustrate these articles. Dr. Schliemann supposed this to date from 206 B.C., and Professor Brunn, the Director of the Munich Museum, appears to rather coincide with this view. The editor of the translation says that an acute critic has suggested that the metope belongs to the best period of

Greek art about the time of Alexander, and that it has been inserted in a Doric frieze of late debased work, as is proved by the difference of the styles, and by the sculpture being too large for the space it occupies. This seems to us to be the more likely explanation. As to the character of the design, Professor Brunn remarks:—

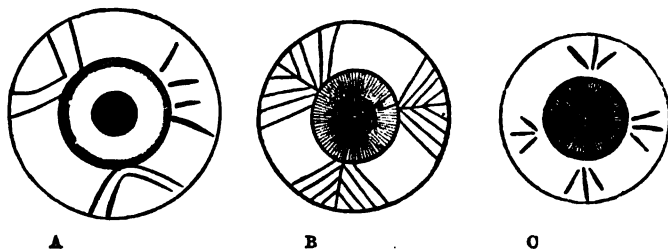
"The composition, as a work of art, shows the greatest skill in solving one of the most difficult problems. For the team of four horses ought not to move on the surface of the relief, but to appear as if it came out of it in a half turn. This has been attained principally by making the right hinder thigh of the horse in the foreground pressed back while the left foot steps forward; and moreover this same horse is slightly foreshortened, and the surface of the thigh lies deeper than the upper surface of the triglyphs,

* Troy and its Remains: a Narrative of Researches and Discoveries made on the Site of Ilium and in the Trojan Plain. By Dr. Henry Schliemann. Translated with the Author's sanction. Edited by Philip Smith, B.A. With Map, Plan, Views, and Cuts representing 800 Objects of Antiquity discovered on the site. London: John Murray.

while, on the other hand, the surfaces of the withers and of the neck are higher, and the head, in conformity with the rules of Greek reliefs, is again almost parallel with the base. For this reason there is no indication of a chariot, which has to be imagined as concealed by the foremost horse. Moreover, the position of the god is half turned forwards, slightly following that of the head, and here also the arm is again strongly turned inwards, but not so as to bring the position in conflict with the rules of relief. If the encroachment of the head on the upper border of the triglyph is considered inaccurate, I find in this a very happy thought which may remind us of the differently-conceived pediment of the Parthenon, where only the head and shoulders of Helios rise out of the chariot still under the ocean. Helios here, so to speak, bursts forth from the gate of day, and sheds the light of his glory over all. These are beauties, peculiar only to Greek art, in the fulness of its power."

The second stratum at Hissarlik has also an average thickness of two metres. In this zone it is noteworthy that, unlike the other strata, no remains of the walls of houses are found; even single stones are scarce. The town to which this part of the *débris* belongs would thus seem to have been built of timber, and this *wooden Ilium*, as Dr. Schliemann calls it, must, during the course of centuries, have been frequently desolated with fire. Whatever people then inhabited the place would appear to be less advanced in civilisation than the races that preceded them, or than the Greek colonists. Copper lances, battle-axes, and other implements, as well as moulds for casting them, were found, during the exploration, and hammers and axes of stone; but these weapons were not in quality equal to those found in the strata beneath. Among the terra-cotta vessels there was, however, one very curiously fashioned, somewhat in the form of a modern bugle or saxhorn, and having three feet. No other example of this type was seen. In this stratum Dr. Schliemann first met with those small but remarkable terra-cottas which, for want of a better name, are called "whorls" in the English edition, and which are less explicable than any of the other antiquities. "They are," he says, "sometimes as round as a ball, exactly the shape of a German humming-top, sometimes in the form of hemispheres, others again in the form of cones, tops (*carrouseaux*), or volcanoes. They are from $\frac{1}{4}$ of an inch to $2\frac{1}{2}$ inches high and broad, and all the different forms have a hole right through the centre; almost all of them have, on one side, the most various kinds of decorations encircling the central hole. With the exception of a few of these objects made of blue stone, from $\frac{3}{4}$ of an inch to $1\frac{1}{2}$ inch broad, and found at a depth of 3 metres, they are all made of terra-cotta, and it is quite evident that the decorations were engraved when the clay was still in a soft state. All are of such excellent clay, and burnt so hard, that I at first believed them to be of stone, and only perceived my mistake after having carefully examined them."

So many of the whorls were found (in some places at the rate of 100 a day), it is plain that they must have been in general use, and, as they occur in all the lower parts of the strata, in use for centuries, but for what purpose has yet to be determined, and there is not a line in Homer that refers to them. M. Emile Burnouf, the Director of the French Academy at Athens, and whose reputation as an archaeologist is widely recognised, suggests that they were either worn by the Trojans and their successors as amulets, or were used as coins, and this without doubt would be the ordinary supposition on a first view. But Dr. Schliemann considers that they are much too heavy to be amulets, and the religious symbols found on them are hardly compatible with coinage; besides, some of them have the central part filled with a white substance which must have disappeared if the whorls were circulated from hand to hand as money. He supposes that they were employed as *ex votos* to be hung in the temples, while those like a flat cone or volcano may have been idols and suggestive of Hephestus or Vulcan. There are more than thirty lithographic plates, showing about 200 varieties of the whorls appended to the English translation, and they are well deserving of consideration by archaeologists. Most of the patterns found on the whorls may be symbolic, but not a few of them, we imagine, had no other purpose than to be merely ornamental, and in the Trojan terra-cottas we may thus have some of the earliest examples of prehistoric design. A sort of family likeness runs through them, no matter at what depth they may occur.



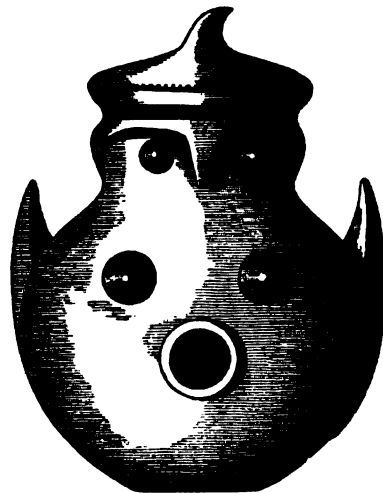
For instance, the whorl marked A was found at 7 metres, B at 9 metres, and C as low as 14 metres, yet far apart as may have been the times in which they were formed, there is no doubt that the form and arrangement of the patterns indicate that the designs were kept subservient to some recognised type, and this persistence gives those little terra-cotta balls a value beyond what is due either to their form or decoration. That there was some relationship between all the people who lived on the hill of Hissarlik is the firm belief of Dr. Schliemann, and it is borne out by the similarity that subsists between the forms of the different objects he discovered. This is seen no less in the vases than in the whorls. Plastic representations of Athena, the owl-faced tutelary goddess of Ilium, are common to the four nations which preceded the Greek colony. The owl-face on vessels is met at 2 metres and down to 12 metres. "I found in all the layers of *débris*," says Dr. Schliemann, "from a depth of 3 metres down to a depth of 10 metres vases with owl's faces, two upraised wings, and the two large breasts and

abdomen of a woman, and as far down as 14 metres I found the upper portion of a vase and the fragment of a dish adorned with owl's faces." The terra-cotta cup or goblet shown in the cut was found at a depth of 4 metres, or 13 feet (and was the only perfect example); but fragments of the lower part of similar cups were repeatedly met with at a depth of from 46 to 52½ feet. The character of the *débris*, and the way in which the



material was found in the cuttings, are enough to show that there is little likelihood of objects belonging to one period of time having been drifted to a higher or lower stratum. They may be accepted as characteristic of different times, just as fossils characterise the various geological strata.

The houses in the next stratum, according to Dr. Schliemann, were formed of small stones joined with earth. They were smaller, and less wood was used in the construction. At a depth of 20 feet the remains of a large building were discovered—the walls were in part 10 feet high, and 6½ feet thick. None of the stones exceeded 1 foot 9 inches in length, and they were skilfully put together, and had a smooth surface. Interesting as this house was, it had to be destroyed in order to extend the excavations. The pottery resembled that of the next stratum beneath, but on the whole it was coarser in quality. Sometimes, however, fine examples were met with. Thus, at a depth of 6 metres, Dr. Schliemann found "two splendid brilliant red vases, with representations of the Ilian Athena with the owl's head, a kind of helmet, two upraised wings, two breasts, and the large circular prominent elevation on the abdomen;" of one of them we give an illustration.



Dr. Schliemann at first believed that metal was rarely, if at all, used by the people who lived at this time; but in the course of the excavations he found nails, knives, and battle axes of copper, as well as moulds of mica-schist for casting them. But stone implements, such as knives of silex, hammers and axes of diorite, &c., are found by thousands in this stratum.

(To be continued.)

PROFESSOR BARRY'S LECTURES ON ARCHITECTURE.—III.

DELIVERED AT THE ROYAL ACADEMY, ON MARCH 8.

(Concluded from page 187.)

RAPHAEL had only held office for six years when his premature death, in 1520, left the works again without a master. From his affection for Bramante, he seems to have been anxious to carry out the design of the latter in its integrity, and to have spent the time of his official engagement in endeavouring to strengthen the piers which Bramante had left, and otherwise prepare for the construction of the great dome, which he was not to live to see. He collected, as far as he could, all evidence of Bramante's intentions, and prepared to carry them into execution.

Pope Leo, who occupied the Papal chair at the time of Raphael's death, had now to make a new appointment, and he seems to have acted on the same principle which had given Raphael practical coadjutors in his work. Baldassare Peruzzi was nominated architect, and Antonio San Gallo, a man of more practical mind, was to assist in structural matters.

Leo X. only survived Raphael one year, but before he died there had arisen considerable difficulties in the prosecution of the building. His profuse expenditure, public and private, had embarrassed the resources of the State. He had sought, as we know, to raise money by the sale of indulgences, with a result which he could scarcely have foreseen. Economy had thus become a necessity, and it was decided that Bramante's plans must be curtailed.

Giuliano San Gallo had already retired from the direction of affairs by reason of age and ill-health, and Fra Giocondo died in the same year as Raphael.

The first duty laid upon Baldassare Peruzzi was, therefore, to revise the design. He was in many ways well fitted for the task, being an accomplished antiquary, and well versed in the study of ancient Classical art, which it was now sought to restore.

Antonio San Gallo, who was associated with Peruzzi, was well known as an engineer and architect. Michael Angelo had criticised unfavourably his plans for the fortifications of the Vatican quarter of Rome, much to the indignation of San Gallo, who declared that a sculptor and painter could know nothing of such things. He had succeeded Michael Angelo as director of fortifications in Florence, when the latter abruptly left the city, and the two men had come otherwise into collision. The Farnese Palace at Rome, a design of San Gallo's, was taken out of his hands by the Pope, and entrusted for completion to Michael Angelo, whose design for the great cornice has already been referred to. San Gallo, moreover, had worked under Bramante, and was no stranger to his master's jealousy of his great rival.

Peruzzi and San Gallo at once set about the realisation of the Pope's decision.

Adhering to the idea of a grand and lofty dome, it must have been evident to the practised constructional skill of San Gallo, that the supports for this feature provided by Bramante were altogether inadequate. Peruzzi did not approve of the plan, devised on the Mediæval principles of a Latin cross, with long nave and aisles. His classical tastes led him to prefer the simpler form of the Greek cross. He therefore cut off Bramante's nave, and reduced his plan to that of the central dome, with four equal arms or naves. He adhered generally to the design of the interior, especially as regarded the apsidal terminations of the four arms of the cross, in which he placed doors, so as to show that he thought the composition of the whole building should be so arranged as to appear to equal advantage from whatever side it might be approached.

You will, doubtless, remember that this was the idea which Sir Christopher Wren wished to embody in our own St. Paul's, and that the long nave was an addition, forced upon him.

Peruzzi considered that the dome ought to be the principal feature, both externally and internally, and that a long nave was inconsistent with this principle. He urged that Bramante's plan made the dome a mere appendage, and degraded it to a secondary place in the design.

We shall find hereafter that Michael Angelo concurred in these views. They were worthy of an artist of Peruzzi's refined taste, and his design well merits your attentive study. You will notice in his plan, that, probably at the instance of San Gallo, the four great piers of Bramante are much strengthened, and a compactness and obvious increase of solidity imparted to the whole composition.

Advantage is taken of the increase of the great piers, to give to the angle chapels the form of a Greek cross, the central portions of which were to be surrounded by domes. These four smaller domes, grouped around the great central cupola, would have added to the dignity and effect of that important feature, under which the high altar was to be placed.

In the exterior, the contrast between the curved and rectangular forms promised to be much more definite and satisfactory than it is at present, and Peruzzi proposed to finish the square sacristies at the four corners with campaniles.

It has been said that this plan of Peruzzi's was the result of economical considerations, but I do not think he allowed himself to be unduly embarrassed by such difficulties; the design appears to be in every way worthy of his talents, and if it had been realised with appropriate detail, and with the addition of external colonnades, it could not have failed to have produced a magnificent architectural effect.

Circumstances, however, were against him, the extravagances of the preceding Popes had to be expiated, under the chill blasts of one of those biting winds of economy of which we are not ourselves wholly without experience in respect of public works.

Leo's successor, Adrian VI., a simple and exemplary man, was indifferent to art, and Clement VII., although different in this respect, found himself too impoverished to do much for St. Peter's; so that it was not until Paul III. succeeded him, in 1535, just as Michael Angelo was finally leaving Florence, that any serious proposals for resuming the work could be entertained.

Baldassare Peruzzi did not live to realise his conceptions. He died in 1536, in poverty and distress, not without suspicion of poison; supposed to have been administered by some envious rival.

Again therefore was the work suspended, and the Pope had once more to choose an architect. This time Antonio San Gallo was selected. He had assisted Peruzzi, and to him, as being the man likely to know most of the matter, the Pope now applied. He at once prepared a large model of his proposals.

Starting from Peruzzi's plan, San Gallo made many alterations and additions, notably a restoration of the form of the Latin cross. He abolished the semicircular columnar screens in the apsidal terminations of the tribunes and transepts, which Raphael and Peruzzi had maintained from Bramante's original proposals; and he still further increased the four great piers under the dome. He diminished the importance and size of the four angle sacristies, at a considerable loss of external effect. The addition of nave or atrium, which he proposed, was to have served as a vestibule connecting two bell towers, and between the latter a balcony was provided, from whence the Pope could give his solemn Easter benediction, "*urbis et orbi*."

In the exterior design, San Gallo introduced a multiplicity of parts, in opposition to the colossal manner of design favoured by Bramante, and subsequently followed by Michael Angelo. His elevation shows columns upon columns, instead of a single order, as previously intended. The dome was so encumbered with details, that all grand simplicity of outline was lost, and the lantern became a principal feature instead of an accessory. The bell-towers were designed in a corresponding manner in fourteen stages, with small spires, which recall a type common in Northern Italy.

San Gallo, indeed, was imbued with Gothic, rather than with Classical sympathies, and his design seems to have been based on his recollections of Siena and Pisa, rather than on any bold resolution for an original treatment of the problem before him.

I think, however, we should pause before we join too hastily in the chorus of disapprobation which has been lavished on San Gallo. We have seen that he was more of an engineer than an architect, and the details of his design will not bear the criticism of a pure taste. The plan, moreover, is so deficient in simplicity, that its effect, if executed, must, I think, have been greatly confused, while it would have detracted from the dignity of the great dome. But it is difficult to condemn altogether the principle which San Gallo sought to apply, that of a variety of parts of moderate size, as such a principle, when carried out on a great scale and with good judgment, will give dignity and grandeur to the mass.

We all know how common a complaint it is that St. Peter's, as now existing, does not impress the spectator with an adequate idea of its size, and this must be considered a severe criticism on a work of architecture. It is quite true that proportion is the first necessity to our art, and that, speaking generally, we are charmed by the proportions of Michael Angelo's masterpiece; but a scale and an enhanced effect would have been given to these proportions if the details of the composition had been less colossal, and the parts more numerous and more interesting.

Michael Angelo had, as we know, passed through no architectural training. He delighted in the majestic and sublime, and sought his inspiration in a system of grand simplicity, with a carelessness of details which has proved a snare to lesser minds. He condemned San Gallo's design *in toto*, and his influence with Pope Paul III. was sufficient to induce the latter to pause before giving his consent to its execution.

San Gallo died in 1546. Michael Angelo was at once appointed his successor; and was called upon to advise the Pope as to what should be done.

He frankly explained his objections to San Gallo's plan, and censured its complexity. He predicted that the interior would be dark and gloomy; he objected to the variety of columns, pyramids, and points exhibited by the elevation; and declared that the whole design was a tasteless mixture, giving neither the simplicity of ancient classical taste, nor the picturesque variety of more modern examples.

This criticism sealed the fate of San Gallo's plan, and Michael Angelo undertook to produce a model in opposition to it, to illustrate the principles which he enunciated.

San Gallo's model was an elaborate structure, 23 feet long by 18 feet wide, and had cost 4,000 scudi. It was characteristic of the energy of Michael Angelo, then in his seventy-third year, that in fifteen days he was ready with his model, executed at a cost of only 25 scudi.

Before examining the plan of Michael Angelo, it should be remarked that it was influenced by two causes—economy, and the impatience of the Pope. In deference to these considerations, Michael Angelo declared that the adoption of his design, instead of that of San Gallo, would save 300,000 scudi and fifty years of time.

We may further see in Michael Angelo's proceedings a new illustration of that noble fearlessness and independence so characteristic of his nature. He looked upon Bramante as his enemy, but he never wavered in his homage to him as an architect. A pettier mind might have sought consolation, if not revenge, by deviations from the proposals of his rival; Michael Angelo, however, had but one idea—the perfection of the work on which he had entered "for the love of God." He, therefore, adhered to the general principle of Bramante, as regarded the central feature of the building, and applied himself to give due effect to its design.

Michael Angelo's plan has been to so great an extent superseded by the architects who completed his work that you will probably not be sorry to have an opportunity of examining it, and of comparing it with those of his predecessors, and more particularly with that of Baldassare Peruzzi.

He adhered, as may be seen, to the adoption by the latter of the Greek cross, though, for local reasons, he thought it advisable to give external importance to the western end by the addition of a portico, and to make all the entrances at this end of the church. Actuated doubtless by financial considerations, he suppressed the apsidal terminations proposed by Bramante, and he diminished the width of the arched nave, tribune, and transepts.

It must, I think, be concluded that these changes were not improvements.

Magnificent as is the dome of the present church, the three upper arms of the cross are wanting in interest and variety of light and shadow. If the arches of the chevet of one of the best mediæval cathedrals were to be walled up, some idea might be formed of the loss which St. Peter's has sustained by the withdrawal of any corresponding features.

The alteration of the general proportion of the arches was also, as it seems to me, injurious to the general effect. It arose, no doubt, from the necessity for increasing the size of the four great piers, without adding to the dimensions of the dome. Professor Cockerell has called attention to this departure from Bramante's design, and I have taken from him the explanatory diagram before you.

The consideration of this question brings out the opposing principles of Classical and Mediæval design. The former aimed at width and spaciousness of effect; the latter at height and variety of features. At St. Peter's, the dimensions are so vast, that the alteration of the broader proportion of Bramante to the narrower section executed, was not of serious consequence, although it must be regretted; but at our own St. Paul's a similar narrowing of the proportions of nave and transepts has been disastrous.

In Bramante's section, the height of the arch as compared with its width, was as 16 to 10, or a little more than one diameter and a half. In the reduced section of Michael Angelo, the height became as 19 to 10, or all but two diameters high; and at St. Paul's Sir Christopher Wren has given us arches of $2\frac{1}{2}$ diameters in height, being a proportion of $21\frac{1}{2}$ to 10.

All must, I think, admit the inferiority of St. Paul's to St. Peter's as regards internal effect; and although, in discussing the causes of this inferiority, there is something to be said about architectural details, I venture to think that the chief defect of the interior of our own cathedral lies in its proportions, and that it is this circumstance which will prove the most formidable difficulty, in any scheme for its decoration.

But to return to St. Peter's. It was necessary to diminish Bramante's plans, and so to lessen the burden on the public exchequer; and in carrying out these instructions, Michael Angelo must not be held answerable for all the consequences.

Adhering steadfastly to the idea of the dome, he produced a design which, while realising the original boast of raising the Pantheon in the air, nevertheless departed from its avowed model, in some important particulars.

Bramante had apparently proposed to adhere more exactly to the precedent he relied on. His design shows the Pantheon dome almost literally, displaying only a small portion of its hemispherical form above its abutments. In actual execution, far less of the latter would, of course, have been visible than can be indicated by a geometrical elevation, and it would have been certainly very inferior to the present dome, especially when seen from the west end, with a long intervening nave. San Gallo followed Bramante in his preference for the flatter section, and this is one reason why his dome fails in dignity.

It was reserved for Michael Angelo to show the vast difference between following the principles of preceding masters, and a slavish adherence to particular designs. He boldly determined to depart from the section of the Pantheon, and he not unnaturally turned his eyes towards his native city, and dwelt on his recollections of Brunelleschi.

He had always been an admirer of the genius of the latter, and the constructional expedient adopted by him, of two domes, connected with ribs, seemed to give him the opportunity he sought of increasing the external altitude, without injury to the proportions of the interior.

Here again, however, Michael Angelo was no ordinary copyist. The Florentine dome is octagonal in plan, but this figure Michael Angelo discarded, and founded his dome on a circular base, surrounded with columnar piers, or buttresses. He abandoned the circular section of Bramante and San Gallo, for one of a slightly pointed character, making the external dome sharper than the inner one. He admitted a single order only into the external composition, in broad contradistinction to the design of San Gallo.

The piers surrounding the tambour, sixteen in number, give strength of construction, with a charming effect of light and shade, though it may, perhaps, be doubted whether, in this last particular, the continuous peristyle, proposed by Bramante, and carried out at St. Paul's, is not superior in beauty.

It is difficult to surmise, however, how Bramante could have carried his lantern, and we all know the expedient to which Wren felt obliged to resort for this purpose. Michael Angelo entirely conquered the difficulty, by following the cellular principle of construction, taught us in the first instance by Nature, and now so familiar to modern engineers.

He intended to surmount the piers with statues. They have not as yet been carried out, but I was glad to notice, in some recent news from Rome, that the present Pope was taking steps to realise the original design, by the addition of these important features.

In the dormer windows of the dome we have an instance of an exception to the usual grandiose character of Michael Angelo's designs. It is an exception, a departure, however, which I venture to think, illustrates the justice of what has been already said upon this point. The dormers are forty-eight in number, and are carefully graduated in size, diminishing in accordance with their height. There can be little doubt that they give a scale to the dome, which would perhaps otherwise be wanting; and that they contrast pleasingly with the piers and details of the storey below.

Michael Angelo seems to have given an amount of study to the design of the dome which he was not ordinarily wont to bestow, and the result has been the production of a work which has been more generally admired than almost any other architectural masterpiece. It is, I think, a testimony to the appropriateness of its details, that they bring out the full beauty of its proportions, so that we do not hear the same complaints of want of apparent magnitude, as regards the dome, which have been so often urged against the interior of the building.

Grouped around this noble cupola, Michael Angelo has given us four smaller domes, at the angles of the cross; but he dispensed altogether with the great bell-towers, provided by San Gallo, for the west end. He did not, however, contemplate such an elevation as now exists. Had he done so, he might probably have felt the necessity for something to mark the corners vertically, and to give dignity to the front, as has been done so successfully by Sir Christopher Wren when dealing with a similar problem.

The entrance front, as now existing, was executed by Carlo Maderno after the death of Michael Angelo. It is not only poor and ineffective in design, but it also interferes seriously with the view of the dome. Peruzzi's and Michael Angelo's objections to a Latin cross, for this reason, have consequently been abundantly justified, as you will see from the diagram before you of St. Peter's, as it is. I will remove the elevation of the existing front, and you will then be able to perceive how much more fully the dome would have been appreciated if Michael Angelo's proposals had been carried out.

Considered as a whole, the plan of Michael Angelo, while more simple, appears to me less architecturally effective than that of Peruzzi, and it may be especially suggested that the interior details, suppressed from the latter, might have gone far to confer on the interior of St. Peter's that gradation of scale and variety of effect which we feel to be desiderated.

In the exterior the want is felt of the projections, and of the pleasing

balance of rectangular and circular lines which distinguished Peruzzi's plan. The connection, indeed, between the curved projections and the angles of the design in the existing building, must be considered faulty; the combination of circular, rectangular, and canted lines is also inharmonious and disturbing; so that, all things considered, the exterior of St. Peter's must yield the palm to its lesser rival and offspring, St. Paul's.

The cupola, however, was especially Michael Angelo's own. Often more or less copied, it has never been surpassed; and those who have once seen it, will ever connect Rome with Michael Angelo—and Michael Angelo with Rome.

When the great artist accepted the office of architect of St. Peter's, his increasing infirmities led him to resign the practice of painting and sculpture, and to devote himself to the crowning achievement of his career. His loss of Vittoria Colonna, so soon after his appointment, deepened the solemnity with which he regarded life, and drove him, so to speak, more and more within himself.

He had made powerful enemies, for it was not to be supposed that the rejection of San Gallo's model would not grievously offend the many influential friends of that artist.

Michael Angelo was now more than ever alone, for Paul III. died in 1549, and under his successor, Julius III., he had to meet intrigues, detractions, and accusations of the most paltry kind. He was, however, supported by Julius, who died in 1555, and was succeeded by Marcellus, who only survived him one month.

The new Pope, Paul IV., admired and trusted Michael Angelo, but deprived him of a paid office which he had long held at the Papal Court, and by reason of which, he had been enabled to declare his resolution to accept no salary at St. Peter's. No petty slight, however, moved the noble old man. "If I should leave St. Peter's," he wrote, "I should occasion the ruin of this great monument, and this would be to me an eternal shame, and an unpardonable fault."

Sad and solitary, he toiled at his work. The reigning Duke Cosmo of Florence left nothing undone to induce him to return to his native city, to position, affluence, and honour; but he stood firm, and prayed that "for the love of God, and of St. Peter, his highness would not insist on the request for his return to Florence." When at last Cosmo visited Rome, during the last year of Michael Angelo's life, he did homage to the genius so soon to be lost to the world, and made the artist sit down beside him, on equal terms.

Michael Angelo had, however, not lost all of his old vigour, and, though aged and feeble, was even now capable of showing that he was not to be trifled with, for in 1560 he wrote to Cardinal de Carpi, who had interfered with his work, that he would in consequence resign his post. This the Pope would not allow, and Michael Angelo replied to those who accused him of dotage, by the production of the model of the cupola.

He was now in his eighty-seventh year, and, less happy than Wren, he did not live to see the completion of his work. It was not until 1591 that the top stone of the cupola was placed in its position, after receiving the benediction of yet another Pope—Sixtus V.—to the sound of trumpets; amid music, and rejoicings, in which the great artist had no part.

Michael Angelo died in 1563, holding, to the last, his office as architect of St. Peter's. His mighty spirit yielded only to extreme old age. He was in his ninetieth year, when he passed away, expressing his simple will, "My soul I resign to God, my body to the earth, and my worldly possessions to my relations." He had previously intimated a wish that his body should be taken to Florence, his dearly-loved and native city.

The funeral ceremonies were, however, carried out at the Church of the Apostles in Rome, and opposition was feared to the removal of the remains. All the Florentines in Rome had attended the funeral, and the Florentine Ambassador had received special instructions from his Government, as to his conduct. To prevent difficulty, the coffin was taken out of the gates of Rome as merchandise, and after thirty years of voluntary exile, all that was mortal of the "divine" Michael Angelo was again in Florence. The coffin was placed in the Church of San Piero Maggiore, and in the following day, as the shades of evening deepened, a great concourse of artists, young and old, might be seen approaching the church. In solemn silence, and with torches lighted, they bore the corpse to Santa Croce, the Westminster Abbey of Florence.

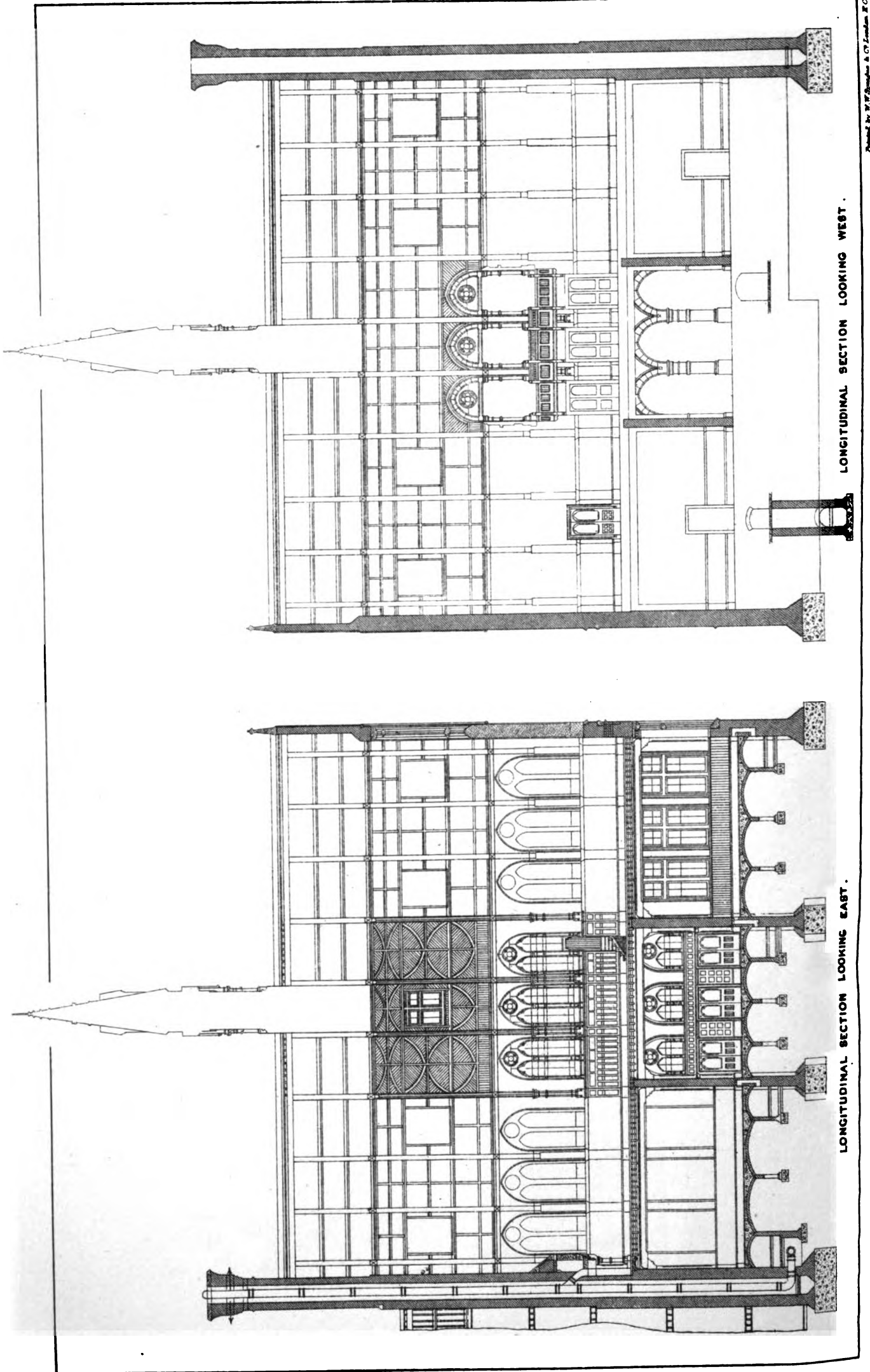
But though the preparations had been secret, the people had found them out; and with the true popular instinct of veneration for noble qualities, had gathered in their thousands; and followed quietly, and mournfully the procession of the artist. Such indeed was the pressure at Santa Croce, that it was impossible to close the tomb, till all had taken a last look at the departed master, when they gradually dispersed. This was on March 11, 1563; and it was not until the following 14th of July that more elaborate funeral obsequies were celebrated, with great pomp and magnificence, by the Academy of Painters, Sculptors, and Architects, under the auspices of the reigning Duke.

We have now briefly traced the career of this wonderful man, patriot, artist, and poet. His works live after him, and by them he must be judged. Amidst all his artistic work, he ever expressed an ardent admiration for Italian poetry, and it had been one of his most cherished wishes to have erected a monument to Dante.

Simple and frugal in his personal habits, he lived only for art. A severe critic of the works of others, he was equally fastidious as regarded his own. In times of the grossest corruption of morals, he was a model of uprightness. Fearless—and at times overbearing—in the enunciation of his principles, he never stooped to deceit or meanness. Supreme in every department of art, he has enriched the world, and left an undying obligation on posterity.

Need I say more? Time would fail me for half that might be suggested to you, by way of conclusions from the story I have endeavoured to tell. I shall have performed my task ill, however, if from a consideration of the life of Michael Angelo, you, as artists, can derive no advantage, and can find no encouragement.

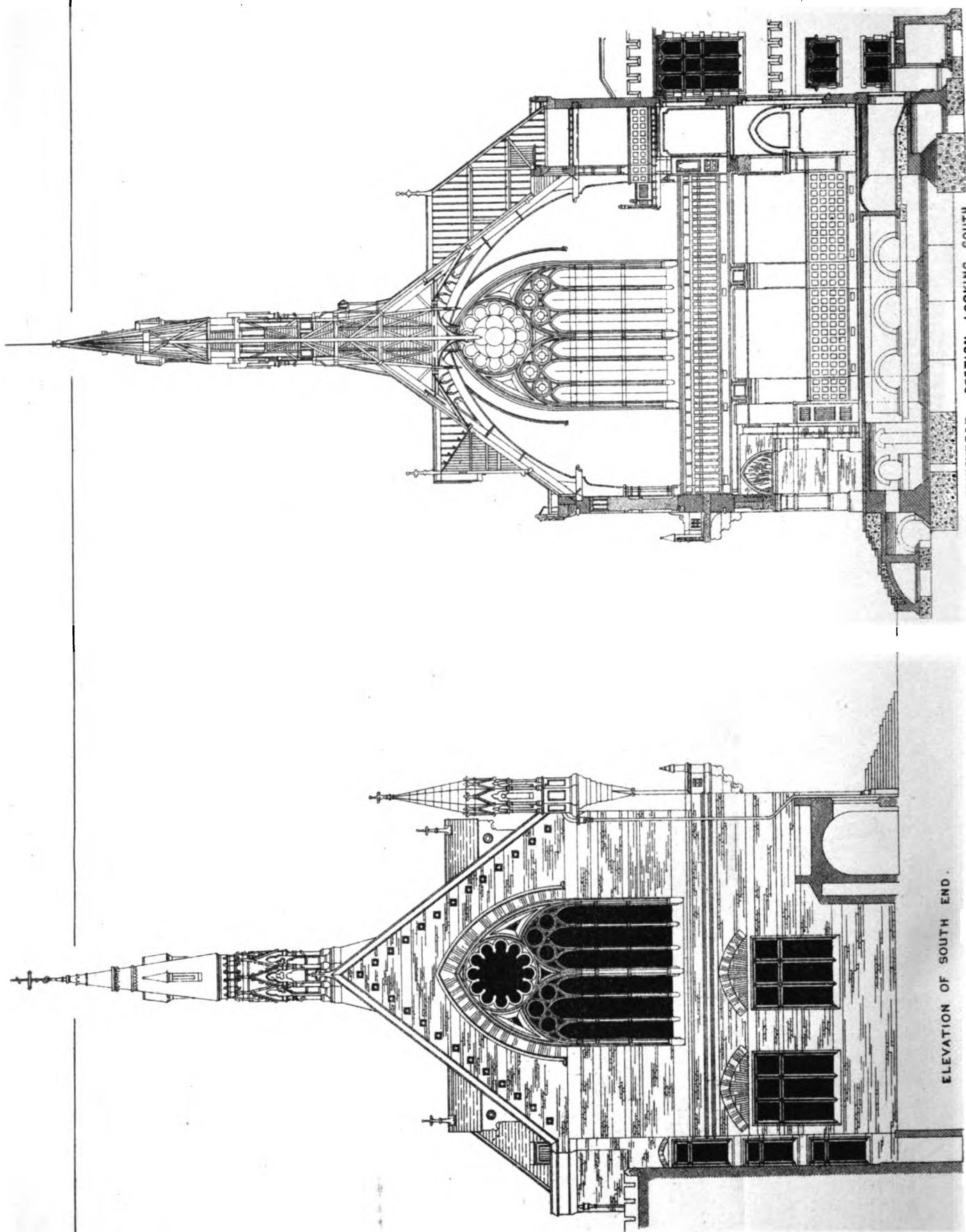




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NEW MERCHANT TAYLORS SCHOOL, CHARTERHOUSE.
E. HANSON, F.R.I.B.A., F.C.S., ARCHITECT.

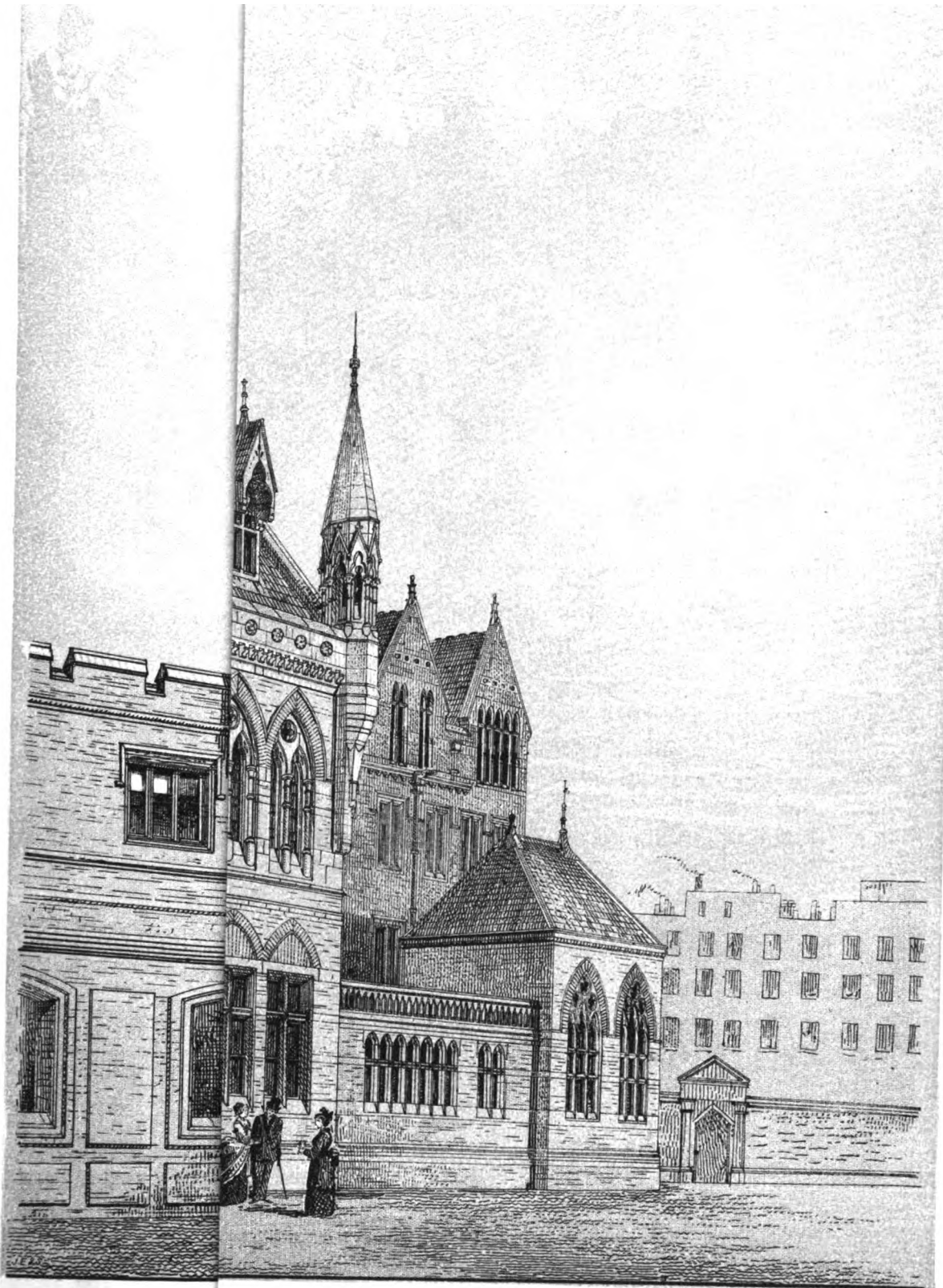




TRANSVERSE SECTION LOOKING SOUTH.

ELEVATION OF SOUTH END.

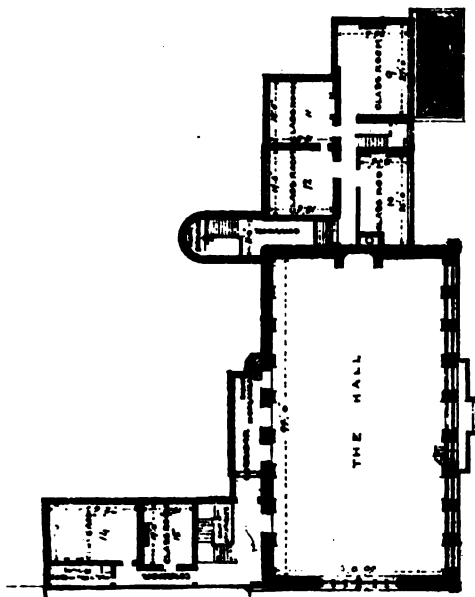
NEW MERCHANT TAYLORS' SCHOOL, CHARTERHOUSE.
DESIGNED BY W. H. STUBBS, ESQ., ARCHT.
LONDON: EDWARD PARSONS, 15, ABchurch Lane.



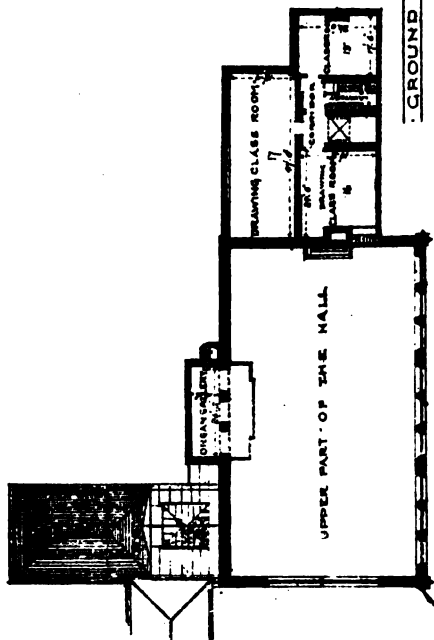
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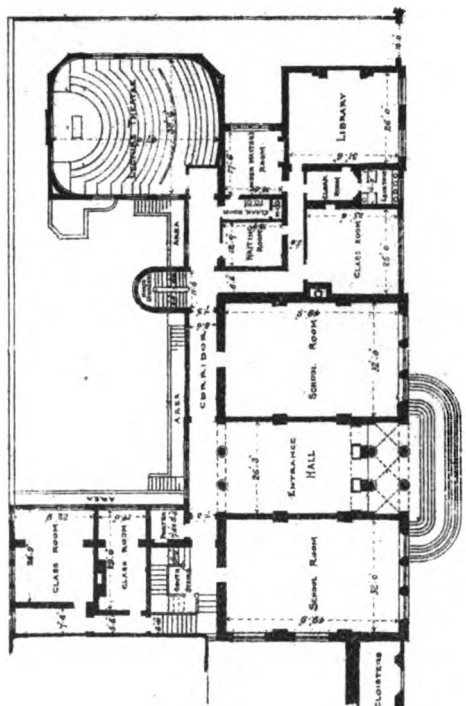
SECOND FLOOR PLAN



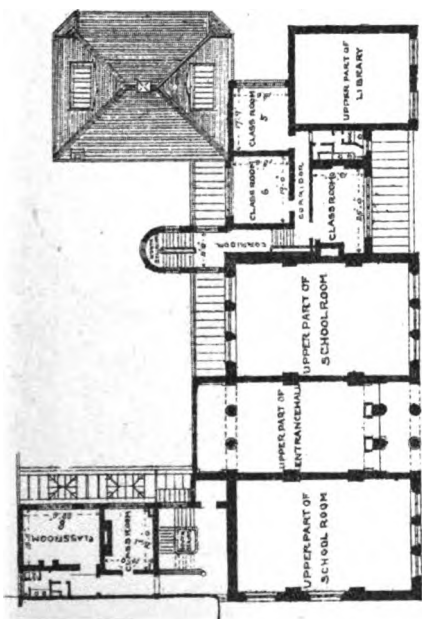
THIRD FLOOR PLAN



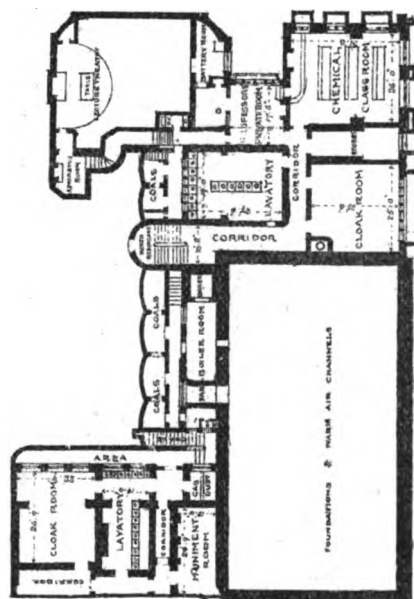
GROUND PLAN



FIRST FLOOR PLAN



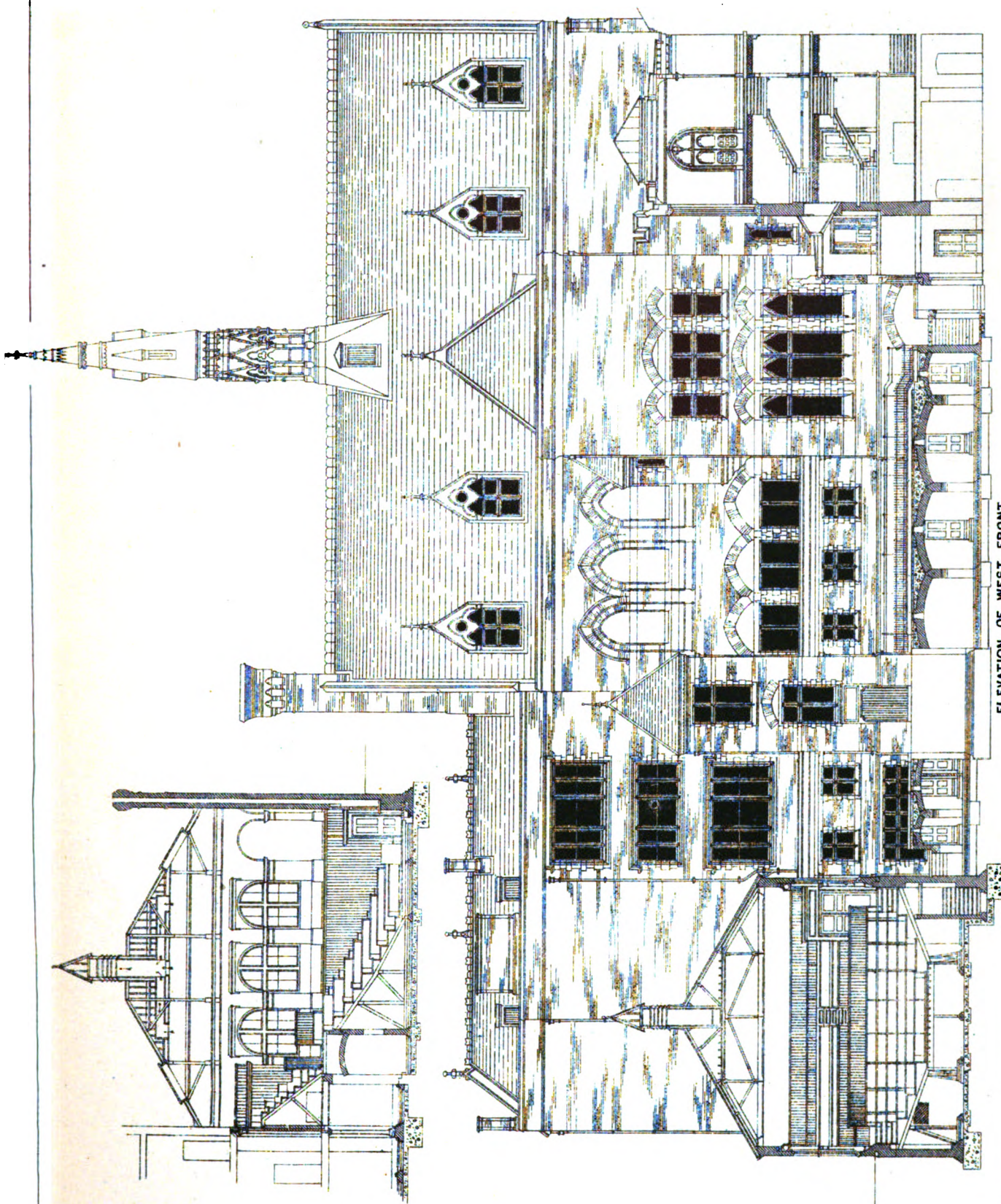
BASEMENT PLAN



NEW MERCHANT TAYLOR'S SCHOOL, CHARTERHOUSE.
E. JANSON FRIBA FCS ARCHITECT

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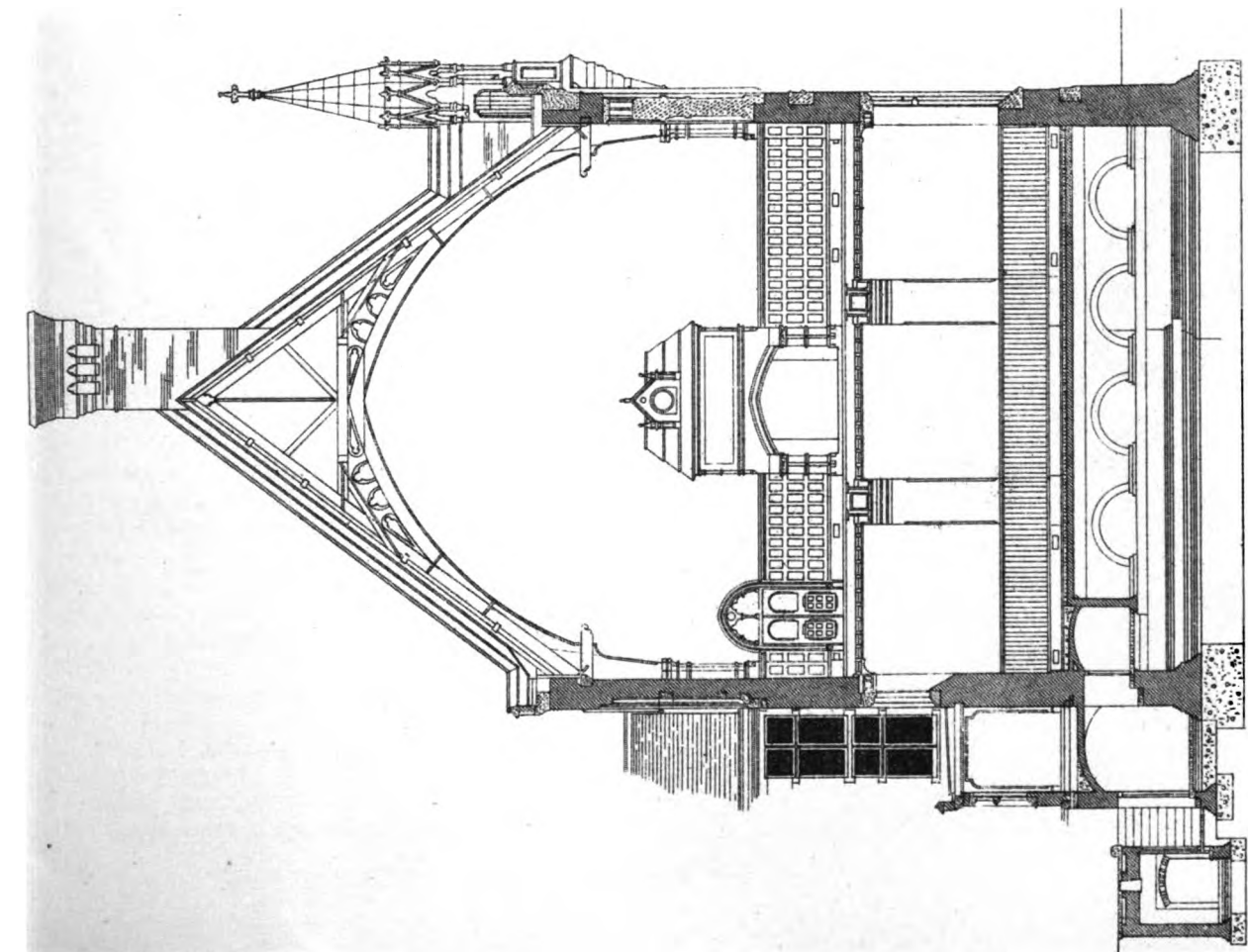
ELEVATION OF WEST FRONT.

NEW MERCHANT TAYLORS' SCHOOL, CHARTERHOUSE.

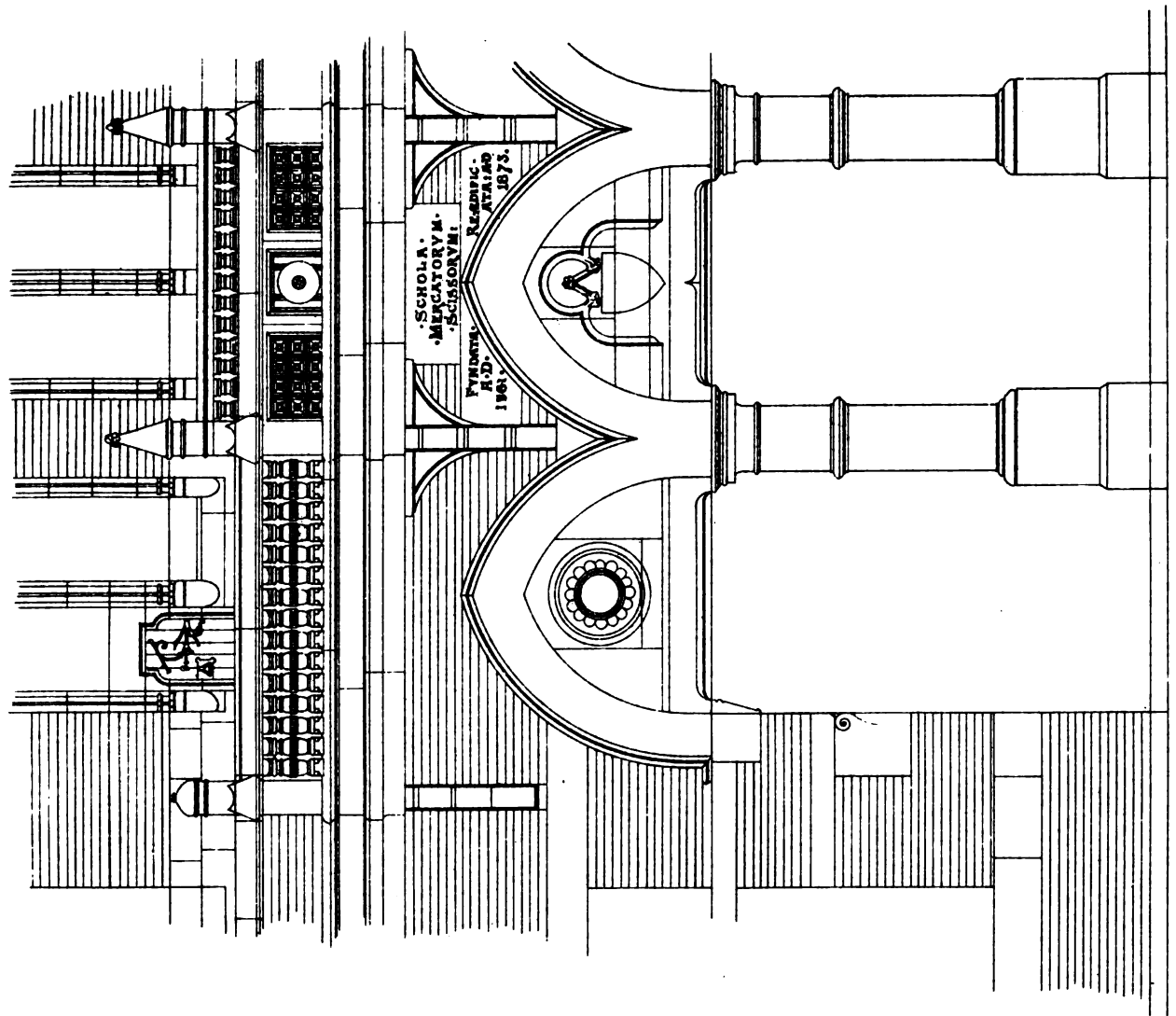
E. JANSON, FRIBA. FCS. ARCHITECT.

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TRANSVERSE SECTION LOOKING NORTH.



DETAIL OF ENTRANCE PORCH.

SCHOLA.
MERCATORVM.
SCHISORVM.
FUNDATA
A.D. 1461.
RECONDITA
A.D. 1873.

NEW MERCHANT TAYLORS' SCHOOL, CHARTERHOUSE.
E. IANSON, FR.I.B.A. F.C.S. ARCHITECT

Printed by W. H. Stanger & Co. London, E.C.



ILLUSTRATIONS.

MERCHANT TAYLORS' SCHOOL, CHARTERHOUSE.

IN the third year of the reign of Queen ELIZABETH the Merchant Taylors' Company established a school in the City of London "for the instruction of youth in learning and good manners," Sir THOMAS WHITE, some time Lord Mayor and an eminent member of the Company, contributing the large sum in those days of 500*l.* for that purpose. The site purchased was a part of an ancient building erected in the reign of EDWARD III., situate in a lane then called Laurence Pountney Hill, near London Bridge, but, from the house having been once in the possession of the noble family of the Dukes of SUFFOLK, is now called Suffolk Lane. Upon this site the school has been continued from its foundation to the present day, and within its walls a large number of distinguished men have received their education.

A few years ago the governors of the Charterhouse resolved to remove Charterhouse School into the country, and a new building was accordingly built at Godalming which was opened some time since. The Merchant Taylors' Company having decided to retain their school in London, and feeling that their present school premises, which were erected in the year 1675, were not adapted to the necessities of the present generation, entered into an agreement in the year 1866 to purchase of the governors of the Charterhouse that portion of the Charterhouse estate in Goswell Street which had been occupied by their school. The institution known as the Charterhouse is devoted to two purposes, one part of the estate being devoted to a school, and the remainder to the residences of a number of pensioners or Poor Brethren, as they are called, who are maintained and lodged at the expense of the Charity. It was that part of the estate used for the former purpose which was purchased in 1866 by the Merchant Taylors' Company, the other portion remaining undisturbed. After disposing of some portions of the ground purchased, a large area has been retained as a recreation ground, the old school buildings were pulled down, and the present buildings erected.

The new Merchant Taylors' School is built upon the site of the head master's room, writing school, and dormitories, at the north-west extremity of the Upper Green. It contains upon the ground-floor two large schoolrooms, each 50 feet by 32 feet, with a spacious entrance hall between. A corridor running longitudinally the whole length of the new building connects the house, formerly the residence of the Head Master of Charterhouse School, with a building at the south-west corner of the new building, formerly appropriated to the boys on the Foundation, both of which buildings have been altered so as to form classrooms, eighteen in number.

Upon the upper-floor is a grand hall, 50 feet wide and 93 feet long, lighted by nine windows on the east side, as well as by dormers in the roof. A corridor on the west side of the hall connects the new building with those which are adapted in the same manner as on the ground-floor.

On the site of the matron's house, on the north side of the school-master's court, a laboratory and lecture theatre, about 40 feet square, have been erected, the study of physical science being intended to be included in the school curriculum.

In addition to the above works, the buildings on the east side of Rutland Place have been utilised as a residence for the head master and two under-masters, and dining-rooms for the boys.

The building, formerly known as the day boys' lodge, on the east side of the chapel of Charterhouse, has been converted into a caretaker's residence.

The cost of the new buildings and alterations has been upwards of 30,000*l.* The expense of removing the school, and of the rebuilding, will be defrayed by the Merchant Taylors' Company out of their corporate funds.

The first stone of the new school was laid on June 16, 1873, by His Royal Highness the Duke of EDINBURGH, and the new school will be opened by H.R.H. the Prince of WALES on Tuesday next, the 6th of April.

The contractors for the buildings were Messrs. BROWNE & ROBINSON. The warming and ventilation were carried out by Mr. W. W. PHIPSON, C.E., and the school fittings were supplied by Mr. G. M. HAMMER, of the Strand. The works were designed by and carried out under the superintendence of the architect of the Merchant Taylors' Company, Mr. E. L'ANSON, F.G.S.

PEMBROKE COLLEGE, CAMBRIDGE.

THE following memorial, signed by the Bishop of Ely, Sir Henry Maine, the Head Master of the Charterhouse, Canon Venables, and several other graduates, was presented in the course of the past month—

"To the Master and the Fellows of Pembroke College, Cambridge."

"We, the undersigned graduates and members of Pembroke College, desire to express the alarm with which we have received the intelligence, on authority, the accuracy of which we cannot doubt, that the governing body of the college has come to the decision to pull down the greater part of the existing ancient buildings, including the hall, and the whole eastern side of the first court.

"We would desire to offer our respectful but firm remonstrance against the destruction of a group of buildings of so picturesque a character, of such high architectural value, of such great antiquity, and endeared not to us only (though to us peculiarly), but to all who prize the ancient forms and features of the University in which we spent so important a period of our lives.

"We would venture to remind you that the buildings of our college were selected by Professor Willis on the occasion of the lecture delivered in the Senate-house before the late Prince Consort as a typical example of the form and arrangements of a mediæval college. To destroy this would be to rob us of an invaluable historical document, and wilfully to tear a page out of the architectural history of our University.

"We would also venture respectfully to call your attention to the fact that the hall erected about 1360 is, probably, the earliest existing collegiate building of the University, the loss of which, as an example of its age, would be irreparable.

"We feel that we need not allude to the historic memories of which the hall is so full, which would all be wiped away by its demolition, and the substitution of a modern fabric, which, even if more beautiful, would entirely want the interest of the ancient building.

"We had heard with satisfaction that in all the various plans for the reconstruction of the college the hall was regarded as sacred, and was only to be subjected to lengthening.

"The intelligence that it has been decided to destroy this time-honoured and beautiful relic, so dear to us all, has taken us completely by surprise, and filled us with dismay.

"We therefore approach you with the respectful but most earnest request that you will reconsider your determination, and, at any sacrifice, preserve the pristine character of our *domus antiqua et religiosa*."

A letter in reply to the memorial was subsequently received from the Master of the College:—

"My dear Bishop of Ely—A remonstrance (signed by yourself and several other present and late members of the college) against the proposed destruction of a portion of the old college buildings has lately been presented to the Master and Fellows, and considered by them with the respectful attention due to any suggestion proceeding from such a quarter. Although we do not feel ourselves able to comply with the request in the memorial, we can assure you that it is not without much anxious consideration that we have arrived at the conclusion that it is necessary to pull down the hall. The original intention was, as the memorialists rightly suppose, to have lengthened the hall, making also, of course, such alterations in the upper part as to leave it in a thorough state of repair, and not merely patching it up to last for a few years only, thus throwing upon our immediate successors a disagreeable task which we were unwilling to take for ourselves.

"But on a closer examination of the state of the buildings (the opportunity for which was given by the removal of the old lodge and consequent exposure of the walls and other portions of the hall), we were convinced that no alternative remained for us but entire demolition. The roof and floors were found in such a state that they must of necessity be renewed. The walls (which are built of rubble, consisting of mortar and rough lumps of clunch in about equal proportions) were considerably out of the vertical, and some portions apparently in a dangerous condition.

"The walls rested, moreover, on no solid foundations, having been built only a few feet into the ordinary ground; and both architect and contractor expressed strongly their opinion that it would be actually dangerous to interfere with them in any way, although if left untouched they might of course remain standing for some time.

"We have felt that, under the circumstances, no alternative was left to us, and accordingly orders have been given for the immediate removal of the old buildings with the view of erecting a new hall on the same site.

"I am, my dear Bishop of Ely,

"Yours very faithfully,

"J. POWELL."

The following correspondence has passed during this week. The Rev Canon Venables, of Lincoln, one of the Memorialists, gives this history of the project:—

"I was one of those who rejoiced when, in 1870, the authorities of my College commissioned Mr. Waterhouse to design the additional buildings then proposed. I had seen with much satisfaction his work at Caius, where his skill in adapting the new buildings to the old had created one of the most picturesque courts in the University, of which my admiration remains unaltered. Mr. Waterhouse's work at Balliol, though in many points open to grave exceptions, also evidences an appreciation of ancient collegiate architecture so much in advance of the designs of architects of much higher name, with which Oxford had of late years been disfigured, that I felt relieved from much anxiety by his selection, believing that my College was in safe hands. This confidence was increased when, during a visit with which Mr. Waterhouse honoured me at Lincoln, he replied to my entreaty that 'he would deal tenderly with the existing buildings of the

College,' that he entertained such an admiration for them that he would not willingly touch a stone of them.'

"Mr. Waterhouse was at first simply commissioned to erect a new building on the site of some houses in Trumpington Street. This he fulfilled to the perfect satisfaction of the College. Opinions naturally differ as to the merits of the design. Many praise it highly; others wish that the imitation of the earlier features of collegiate architecture had been more close, and regret the introduction in the tower, with its mansard roof, of a continental form alien to Cambridge traditions. But the work is a good and sound one, and if Mr. Waterhouse had continued to design new buildings in the same style on the large space of vacant ground available, no one would have had any reason to complain.

"But the design of the 'restoration'—ill-omened word—of the College grew. It was resolved that a new Master's Lodge was necessary. The present Master was quite content with his house, and desired no change. But the quaint, old-fashioned domicile, with its sunny oriels and windows, giving the Master a *surveillance* of the three courts of the College, was not grand enough for modern notions. So a magnificent *palazzo* has been erected for the Master, at an inconvenient distance from the Chapel and College buildings, entailing on all future Masters a formidable outlay to furnish and keep up in a style appropriate to its architectural grandeur. Here, again, we have no quarrel with Mr. Waterhouse. He simply fulfilled his instructions, and fulfilled them well.

"The erection of this lodge was mistake number one. This was soon succeeded by mistake number two, to which all that we now most deplore is to be traced. The old Master's Lodge would have supplied an excellent set of Fellows' rooms, with lecture rooms attached, and with some improvement to its mean eighteenth century front, would have continued an ornament to the College, of which it was an integral part. But destruction prevailed over conservatism, and orders were issued for its demolition. Now from its position the Lodge could not be pulled down without materially affecting the other buildings. Its dining-room, the old 'audit-room,' was over the Combination-room at the end of the Hall, and formed a portion of the same block. Other rooms formed part of the south side of the first court. The destruction of the Lodge has therefore involved first, the demolition of one side of the original College, dating from the first foundation, about 1360; and, secondly, unless the grief and indignation so generally manifested interpose to save it, that of the Hall and the range of which it forms part. Everybody knows how dangerous it is to tamper with old buildings. Untouched they will stand for centuries; begin to meddle with them, and—Chichester spire to wit—their stability is impaired and their fate is sealed. I can confirm from personal observation all that the Master states in his reply to the memorial as to the state of the walls and woodwork of the Hall. I do not assert that now so large a portion of the block has been pulled down, its abutments destroyed, its continuity loosened, the fabric may not be so far impaired that the only safe course may be the demolition I deprecate. But, before the step is taken, I would earnestly call on the authorities of the College to take the opinion of Sir Gilbert Scott, Mr. Street, or some other architect accustomed to the restoration of old buildings, as to whether the destruction of the oldest collegiate building in Cambridge is absolutely forced upon them, or if with judicious repair it cannot be preserved in its pristine form. To the lengthening originally proposed no reasonable objection could be felt. Sir G. Scott has shown at St. John's how well an ancient College hall lends itself to that treatment, and is improved instead of being injured by its prolongation.

"Doubtless it would be much easier and solve many difficulties to pull down the existing Hall. But to do so would be to rob not Cambridge only but England of one of its most characteristic buildings, the loss of which would be irreparable.

"One word more. *L'appetit vient en mangeant*. The Hall gone, there is too much reason to fear that the rest of the College will follow, and be replaced by an altogether modern building. Are we to be blamed if we prefer our 'old lamp,' which has called forth so many potent spirits, whose names are our glory, to a 'new lamp,' however bright and burnished, but devoid of a single tradition?"

The comment of the Master of Pembroke College on this statement is as follows:—

I will not attempt to discuss the remarks of Mr. Venables either on other works of Mr. Waterhouse or on the changes which have already been made in our own buildings, although I cannot by any means agree with the whole of these remarks. But I should wish to say a few words on the latter part of his letter, in which he recommends that the authorities of the College should take the opinion of Sir Gilbert Scott, Mr. Street, or some other architect accustomed to the restoration of old buildings, as to whether the destruction of the Hall is absolutely forced upon them. In the first place, then, this advice comes too late, as the work of demolition is already in progress, and could hardly now be stayed. But, in the second place, even if it were not too late, and even if I entertained any reasonable doubt myself (which I do not) as to the facts of the case, I at least should scarcely think it proper to ask another person, however eminent, to review the opinion of such an architect as Mr. Waterhouse—an opinion deliberately formed with ample opportunities of inspecting the mode of construction of the walls, and completely confirmed by the contractor, than whom no one has had more experience of the church buildings so common in this district. I am not, indeed, aware what may be the etiquette of the profession, but I should certainly not have supposed that Sir Gilbert Scott, or any other architect, would have been likely to undertake such an office as that suggested. But, again, I scarcely know what Canon Venables would desire when he speaks of the Hall being preserved by judicious repair in its pristine form. I think that, after the inspection which he made of it a short time ago, he would himself allow that the roof, the woodwork throughout, and probably at least the upper portions of the walls, must of necessity be renewed; in fact, I thought when he left Cambridge that he was completely a convert to entire demolition, and I regret to find that I was mistaken. The exterior of the lower half of the walls is coated with cement in order to protect the church surface from the

decay inevitable when this material is exposed to the weather, and its unsightly appearance has for several years been disguised by a covering of ivy, which has now been removed so as again to expose the walls in their natural ugliness. Canon Venables would probably wish these walls to be faced with stone for their preservation; and then how in his restoration would he deal with the interior? Must it be restored to its real "pristine form" with an open roof? or to its second stage with a flat ceiling and a library over, as it was, I believe, at the end of the fifteenth century? Or to the state in which it has been known to late generations, with two storeys of inconvenient keeping rooms above it, as described by Mr. Waterhouse? It appears to me, that in any case the result of such a restoration would be that little would remain of the ancient building, excepting a core of clunch rubble, enclosed within a raw casing of stone, and that we should have walls without sufficient foundations, which might very probably give way in the course of restoration (as happened a short time since in Sir Gilbert Scott's restoration of the ancient Hall of St. Peter's College), and a building much less suited than that which we propose to erect for the practical uses of the College, a consideration which I am afraid that antiquarians are somewhat disposed to overlook, but which we can scarcely afford altogether to ignore.

On the other hand the architect, Mr. Waterhouse, supplies some particulars as to what he considers is the real date of the Hall:—

"The Hall, built in 1380, had originally an open-timbered roof. This roof, doubtless from its date a beautiful one, was subsequently removed, and two storeys of keeping rooms were erected over the Hall itself. In quite modern times, within the remembrance of many of the present Fellows, the Hall was restored—that is to say, imitation fourteenth-century windows were inserted, the walls were cemented externally, and a new ceiling and floor were added. So that, in all probability, nothing more remains of the original structure than some portions of the core of the walls, formed, as Dr. Power, in his letter has explained, of clunch rubble work, which, when opened out, has proved to be without bond or cohesion. The building, therefore, has been, through successive alterations and restorations, entirely denuded of its points of interest as a piece of fourteenth-century architecture. Yet the knowledge of these facts would not have been sufficient to induce the College to consent to the walls being taken down (such naturally being the value set by them on what has so long been identified with the history of the College) had I been able, as the architect employed, to speak with any confidence of their stability.

"I may add that it is intended, in rebuilding the Hall on its old site (but on a somewhat extended area, to meet the wants of the College), to adhere strictly to the style of the fourteenth century, the date of the original structure."

To this Canon Venables again replies:—

"There are two somewhat serious, though I am sure unintentional, inaccuracies in my friend Mr. Waterhouse's letter relative to the Hall of Pembroke College which I should be glad to be allowed to correct.

The additional storey to which the original high-pitched roof of the Hall was sacrificed was not erected for students' rooms, but as the College library, and dates from 1452, and therefore forms an ancient feature, the loss of which would be to be lamented. After the erection of the present chapel by Bishop Wren in 1665, the old chapel (in which Ridley, then Master of the College, held his ordinations as Bishop of Rochester, so full is the old fabric of historical recollections) was in 1690 new ceiled and fitted for the reception of books, leaving the old library free to be parted off into College rooms. The upper floor of rooms was formed in the roof when the late Dr. French, Master of Jesus, was tutor of Pembroke.

The flat ceiling panelled in oak which covers the present Hall dates, it is true, from the earlier restoration of the College, by which, with such admirable judgment, the present Master inaugurated his tutorship. But it is an exact reproduction of the fifteenth-century roof, a portion of which, in an obscure corner, happily survived the destruction of the last century, when the Hall was ceiled in plaster and made comfortable, enabling the excellent architect then employed, whose faithfulness to the original features of the buildings deserves the highest commendation—Mr. Cory, of Carlisle—to recreate one of the most exquisitely beautiful designs of Mediæval Domestic architecture. This ceiling, therefore, though modern in execution, is ancient in form. The same may be said of the window tracery, which was restored by Mr. Cory from Loggan's view.

I think I have shown that more can be said for Pembroke College Hall as a mediæval work than would be gathered from Mr. Waterhouse's letter; and if I may venture to tender counsel to one so eminent in his profession, it is that if we must have a new Hall he will reproduce the original Hall in its essential features, and preserve its exquisite ceiling in the new Combination Room."

Mr. Cory, of the firm of Cory & Ferguson, of Carlisle, who was engaged before in the restoration of the Hall, offers the following opinion on the proposed restoration:—

"Mr. Waterhouse, in his letter, states correctly that within the remembrance of many of the present fellows the Hall was restored. In 1561 this restoration was effected under my professional superintendence, and it is to the condition of the building at that period and at the present time I ask permission to refer.

My knowledge of these buildings commenced between thirty and forty years ago, when, as an undergraduate much interested in Gothic architecture, I made sketches of them.

The lower part of the Hall is undoubtedly of the fourteenth century, but at no distant date from its first erection, and in the fifteenth century, a library and other rooms were built over it, with a small turret containing a staircase giving access to them; hence the necessity for removing the old roof and the flat fifteenth-century ceiling of the Hall. With this room in its present shape, all the more stirring associations of the place are con-

nected. Here the martyr Ridley, the poet Spenser, the statesman Pitt were wont to dine and see these very walls.

In 1709 the under boarding of the ceiling, with its flowers and mouldings, was removed, and a plain white plaster ceiling substituted, the tracery of the windows taken out and the oak panelling painted white.

The cost of this work is stated to have been about 108*l.* 0*s.* 6*d.*, and the author of it received the thanks of the College for the improvements he was then thought to have effected. The new plaster ceiling was cored at the dais end to allow of a more convenient passage in the Master's Lodge; and the opposite end, over the screens, was made to match it; behind the plaster core of this latter portion the original oak ceiling was discovered, with its flowers and mouldings, and in the beams under the plaster were found the mortice holes for the curved braces: thus the whole design of the fifteenth century ceiling was completely given, and in 1864 was again restored in oak.

Now, as to the imitation fourteenth-century windows, for which Mr. Waterhouse would condemn the Hall and which he would replace by an entirely new one of imitation fourteenth-century, he seems not to be aware that the openings are the old ones, the hood mouldings original, and it is only the joints where entirely crumbled away, and the tracery, which in 1709 had been removed, which are new. The latter I was able to restore to its original form from an old engraving of the hall.

With regard to the main point at issue—the stability of the walls. The foundations were, as usual in old buildings, laid only a few feet into the ground, but I found them so far sound that I was able to excavate below them, forming a much-needed cellar under the greater portion of the hall, without flaw or settlement. The portion of the block of Hall buildings, therefore, referred to as being insecure, can only be the very small portion forming a part of the Master's Lodge.

I cannot but think that means might be found to make it secure, but if all means fail why should the Hall be condemned for the frailty of what is only a small portion of an adjoining edifice?

Like the generality of walls of this kind, the outer surface was plastered, but so little was done to it in 1864 that the ivy on the walls was unrestored.

I rejoice that attention has been called to Pembroke College. I hope not too late. It is the earliest of the collegiate buildings in Cambridge, all of a previous date having been swept away, and the interest of its history is continuous, for in its late buildings it possesses an inner court of strikingly picturesque character, one side being a beautiful example of what is now called the Queen Anne style; and a chapel built by Wren, having a magnificent ceiling, which I have heard, but can hardly credit, it is proposed likewise to remove, not because of any insecurity in its structure, but because the work of that great architect is not considered sufficiently Gothic."

THE AMALGAMATED SOCIETY OF CARPENTERS AND JOINERS.

WE have received a copy of the fifteenth Annual Report of this Society.

It forms a volume of about 250 pages. Prefixed to it are some remarks by the General Secretary, Mr. John D. Prior, from which we take the following:—

"The past year has been a very prosperous one. Our members have been well employed, and have been better remunerated for their labour than they were a few years ago. Whilst many important industries have been suffering from a depression of trade, building operations have been actively carried on, and the members of our society have experienced comparatively little difficulty in obtaining employment. Doubtless many merchants and tradesmen, who have been busily and profitably engaged during the late few years of commercial prosperity, have availed themselves of a temporary depression of trade in order to carry out projected improvements and additions to their premises, with the view of extending their business; and thus carpenters and joiners have profitably exercised their skill and industry for the benefit of the entire community. Trade being good, our society has increased and flourished. The increase in our numbers has been 1,028, making the total number of members at the end of the year 13,817. We could scarcely have anticipated a large addition to our funds, as one item of management expenses has been unusually heavy. In order to facilitate the business of the society new general offices have been erected at a cost, including office fittings, of more than 1,700*l.* Notwithstanding this heavy outlay, our cash balance has increased from 30,450*l.* to 41,264*l.*, being a clear gain of 10,813*l.*—the largest amount accumulated during any year of the society's history. A careful valuation of the society's property shows that the value of our assets is 45,551*l.* Our income has amounted to 34,484*l.*, and our expenditure to 23,670*l.*"

As regards the relation with employers, the report states:—"Our demands on our employers for additional wages and reduced working hours, which have been moderate in their character, and which have been a consequence, not a cause, of the enhanced cost of the necessaries of life, have generally been courteously conceded, and thus our disputes have been few and unimportant. I sincerely trust that an amicable relationship between employers and employed may be permanently maintained. Although we may be told that, in accordance with the law of supply and demand, we are justified in pressing for all the advantages we can possibly obtain in busy times, and that we should accept whatever may be offered to us when trade is depressed, I hold that such a policy is advantageous neither to employer nor employed, and cannot benefit the general public. Wherever our employers are disposed to meet us in a fair and conciliatory spirit, our members will do well to meet them with equal cordiality, to carefully consider any arguments which may be advanced, and thoroughly examine both sides of the question at issue. If both employers and workmen are determined to act fairly by their opponents, as well as to secure justice for themselves, matters of detail may be arranged, differences amicably settled, and results secured which would be far more satisfactory to all parties than anything which could be attained by a strike or lock-out. I may even say more;

experience has convinced me that a friendly meeting between employers and employed, where both parties are determined, if possible, to peacefully settle all matters in dispute, will prove more beneficial than a reference to arbitration, where the interested parties appear as special pleaders, and the decision is given by persons imperfectly acquainted with the technicalities involved in the question which they are called upon to determine."

The following recommendation of the Council of the Society will be read with interest, and is worthy of imitation by the other trades societies.

"We are continually charged with repressing individual merit, and dragging all men down to one common level. That this is altogether untrue our members well know; they are aware that whilst we endeavour to fix a minimum rate of wages, and to admit only those into our ranks who are capable of fairly earning that rate, we fix no maximum rate of wages, and are always glad to see exceptional ability rewarded by an increased remuneration. We are desirous of offering every possible facility to those who desire to develop their ability as workmen, and in the hope that a stimulus may be given to those who are desirous of self-improvement, our Executive Council have decided to ask the members by their votes to sanction the establishment of an annual scholarship of one hundred guineas in connection with the technological examinations instituted by the Society of Arts in conjunction with the Science and Art Department; the scholarship to be awarded to the member of our society most proficient in architectural drawing, building construction, and the practical application of scientific principles to the trade of a carpenter and joiner; subject to conditions to be approved of by the Council of the Society of Arts and the Executive Council of this Society. It has been suggested to the Council that the amount could be more advantageously divided into three or more smaller prizes, so as to create a more lively interest and closer competition. Any other suggestion which may be received will be most carefully considered. The Council are not desirous of enforcing their own particular suggestion; they desire, with your consent, to devote the amount which has been named in such a way as shall, after mature deliberation, be found best calculated to develop the latent talent possessed by our members, and to increase the attractions of our Society, by encouraging those who desire to acquire information and to raise themselves by their own industry and ability."

THE LATE J. B. WARING.

THE early day on which we went to press last week did not give us opportunity to announce the death of Mr. John B. Waring, which occurred at Hastings on March 23. If he did not attain that eminence in architecture to which he aspired, Mr. Waring at least did good service in co-operating in the production of many most valuable books on art. As he was born in 1823, he had little more than reached his fiftieth year. Mr. Waring was one of Mr. H. E. Kendall's pupils, and he was afterwards employed as an assistant in Mr. Laing's office in Birmingham, as well as in those of Mr. Smirke and Mr. Mocatta. But this kind of work was not according to his taste.

He was an accomplished draughtsman, and soon found publishers to bring out his designs for civil architecture, as well as his drawings of Spanish buildings. In 1864 he was engaged in aiding Sir Digby Wyatt in the preparation of some of the well known handbooks to the Courts at the Sydenham Palace. He held the post of Superintendent of Works of Ornamental Art in the Exhibition at Manchester in 1867, and this led to his engagement as editor of the fine volumes, "The Art Treasures of the United Kingdom." He was one of the Superintendents of the Exhibition of 1862, and was Chief Commissioner of the Leeds Exhibition of 1868, and for such offices he was well fitted. Among the later books which bear his name are the "Masterpieces of Industrial Art and Sculpture," "Stone Monuments and Ornaments of Remote Ages," and within the last few weeks was published an elaborately illustrated book on "Ancient Pottery." He also published a few small volumes of verse, an autobiography, and two volumes of opinions on various subjects. Mr. Waring contributed several articles to the *Architect*.

THE LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.

THE seventh meeting of the present session of this Society was held on March 24 at the Royal Institution, the president, Mr. Joseph Boulton, in the chair. Mr. Edward A. Haffer exhibited and explained his design for a cathedral suitable for Liverpool, and in doing so observed that the design had not been prepared by him in consequence of the recent agitation with respect to a bishopric, but had been commenced two years ago, his idea at that time being to substitute a suitable structure for the present St. Peter's Church, which he had long regarded as a disgrace to and a blot upon the town.

Mr. J. A. Forrest, in offering some criticisms, as an associate, upon the design of Mr. Haffer, suggested that St. Peter's was not the proper site for a cathedral. Why not place it, he asked, alongside the Art Gallery at the foot of Islington, and thereby make Lime Street one of the finest squares in the kingdom?

Several other gentlemen offered some remarks, and one gentleman spoke warmly in favour of the classical style of architecture adopted by Mr. Haffer. The Gothic school, he said, had been ridden to death, and a change would be a positive relief.

The President also disapproved of the site, but said Mr. Haffer was not, he believed, wedded to it if he could procure a better. As regarded the style, the President remarked that it was one of his aversions, and he should prefer some other. It was not what he considered a pure style, and it was one which gave opportunities for dealing in shams and unsound architecture.

Mr. Haffer replied to the several remarks, and was presented with the thanks of the Society.

THE METROPOLIS LOCAL MANAGEMENT ACT AND "NEW STREETS."

A CASE involving matters of considerable importance to builders and owners of property has for some time been before Mr. Chance, at the Lambeth Police Court, and last week he gave his decision as regards what is the meaning of a "new street" under the 85th Section of the Metropolis Local Management Act.

Mr. William Spencer Johnson, owner of a lane leading out of Christchurch Road, Streatham Hill, had been summoned at the instance of the Metropolitan Board of Works for having laid out the land adjoining the lane for building upon, contrary to the provisions of the Act; and Mr. Thomas Jackson was also summoned for having erected a building on the land adjoining the lane, and what was called a "new street," not in accordance with the Act.

Mr. WARD, who appeared on behalf of the Metropolitan Board of Works, contended that a building having been erected on the land adjoining the lane, it must be regarded as a "new street," which, under the Act, must be 40 feet in width, and that neither as regarded the laying out of the street, nor the buildings which had been erected, had the Act been complied with.

Mr. DOUGLAS STRAIGHT, who appeared for the defendant, contended that the lane in question was not a "new street" within the meaning of the Act. The lane was private property, and Mr. Johnson, the defendant, could, if he wished, put up posts at the entrance to the lane, and prevent the public from making use of it. It was a private roadway, which had never been used by the public, and as a matter of fact there was no outlet to it. The defendant had bought the property as a private place, and it had never been known by any name. It was a lane running back some distance, upon which stables had been built in May last by Mr. Jackson, as a builder, to whom the land had been leased by Mr. Johnson. The Metropolitan Board of Works might just as well say that a gentleman who built stables on his private ground had built a new street.

Mr. WARD urged that the lane was intended to be open to the public when the stables were completed, and that there would doubtless be a large traffic. On the Duke of Bedford's estates gates were put up, but still the jurisdiction of the Board was not questioned.

Mr. STRAIGHT replied with regard to the Duke of Bedford's property they were thoroughfares, whereas this was not.

Mr. CHANCE, in giving his decision, said there was no evidence to show that there was any intention to form the place in question into a "new street." The public had not used it, or, if they had, it was only by sufferance, and the defendant could have, if he had chosen, put up a bar or gate. In his opinion this was clearly not a new street. The former Act, with regard to the word "street," went on to mention "any highway, road, bridge, lane, footway, court, passage, or alley, whether a thoroughfare or not." It was difficult to say this piece of land came under that meaning. It might be a "passage or a lane," but did not the Act really mean a "passage or lane" over which the public had a right? If it was land of a private character, it would not therefore be a "new street," as the public would have no right over it, and if the owner or owners chose to put up a gate or bar, he believed they could do it, and thus exclude the public. To come to a different construction as to the meaning of the Act would, in his opinion, be absurd. If he decided otherwise, he might as well say a bridge over water in a gentleman's private grounds would be a "street or way" open to the public. He considered, therefore, from the whole of the facts, the land at present in question was not that over which the public had a right to go, and the owners would have a perfect right to prevent such a thing. He therefore dismissed the summons.

Mr. WARD asked the magistrate to grant him a case for a superior court, as it was a most important point. There would be great difficulty, if the decision was to stand good, for freeholders would be entitled to stop up whole streets.

Mr. CHANCE: No, not where such streets have been dedicated to the parish in which they are situated.

The magistrate then granted a case as asked for.

THE MAXIMILIAN MEMORIAL AT TRIESTE.

THE Emperor of Austria is to-day to unveil the monument erected on the Piazza Guiseppe, Trieste, in memory of the unfortunate Archduke Maximilian, Emperor of Mexico. A correspondent of the *Standard* says that the monument is from the designs of the sculptor Schilling, in Dresden, and the bronze cast was executed in Vienna. An ornamental pedestal, resting on a plinth of granite raised on two steps, supports the statue of the Archduke in the uniform of an admiral, and with his face turned towards Miramar, his lovely chateau by the sea. He is represented with his hand raised in the act of saluting, as if to express his benevolence and his noble generosity. The pedestal consists of a square block, an octagon socle and a round one. The idea was to embody the beneficial influence exercised by the Archduke on the development of the navy as well as the commercial fleet, and especially to give expression to his preference for Trieste and the blessing he was to the town. The corners of the square block are turned to the four quarters of the globe, with half-winged figures, ending in fins and ornaments, to represent the four points of the compass—the north as an old man in a bearskin and with a harpoon, the west as Neptune with his trident, the south as a negro with a palm fan, and the east as an Oriental maiden with a rose. Fruits from the different zones are arranged in wreaths between the figures, and are meant to indicate the riches from all lands which flow into a seaport. Science, poetry, painting, sculpture, and industry, which were all encouraged by the Archduke, are represented by emblems and medallions on the octagonal socle. The allegorical subjects and figures of the reliefs on the square block are emblematical of the resuscitated glory of the Austrian flag, the victories of the navy, the riches of commerce, and the town of Trieste with Miramar. The statue is 3 metres high, the whole monument being 8 metres 83 centimetres.

ARCHITECTS AND WORKMEN.

MR. FRANK E. THICKE, architect, read a Paper on "The Relationship between Architect and Workman" at the last meeting of the Artisans' Institute, Castle Street, St. Martin's Lane. After a few remarks by the Rev. H. Solly, Mr. Thicke commenced with some observations on the divorce between theory and practice in the art of building. The architect, he said, had ceased to be what he ought to be—the chief workman—and had become a mere walking gentleman. Countless errors in construction might be noticed in the suburbs in dwellings where light, ventilation, and drainage were utterly neglected. What was wanted was a guild of working constructors, where artist and workman might meet on common ground for the promotion of art and utility. Ignorant and selfish speculators had pretty much their own way, and the result was only too well known. Contrasting the streets of large continental towns with those of London, the writer confessed that in this respect men might be excused a momentary longing for autocratic government. He would have all the persons who were to be engaged in the construction of a building meet together, and give and receive suggestions, in order to imbue the workman with an interest in his work, and make him feel himself to be more than a mere machine, like the tool with which he worked. A discussion followed, turning chiefly on this last point of view; and a vote of thanks to the reader of the Paper concluded the meeting.

THE INSTITUTION OF CIVIL ENGINEERS.

AT the last meeting of the Institution of Civil Engineers, a Paper was read on "The Construction of the Albert Dock at Kingston-upon-Hull," by Mr. John Clarke Hawshaw, M.A., M. Inst. C.E. In the year 1861 the Hull Dock Company obtained an Act to construct a dock on the foreshore and lands adjoining and to the westward of the Humber Dock Basin. Further Acts were obtained in the years 1866 and 1867, after the works for the new dock had been begun, for increasing its size, and for the purchase of more land along the foreshore to the westward. The strata consisted of a bed of peat, beneath which were two layers of boulder clay, separated by a bed of fine sand. The lower stratum of boulder clay rested on sand, beneath which was the chalk, at a depth of about 120 feet below quay level. The dock was upwards of 23 acres in extent, 3,350 feet long, and from 200 to 430 feet wide; the height of the quay above the bottom of the dock was 35 feet 3 inches. The lock was 320 feet long between the sills, and 80 feet wide, with a depth of water of 27 feet 3 inches on the sill at H.W.O.S.T. The total area occupied by the dock, lock, basin, and quays was 76 acres, and there remained 120 acres of foreshore, the property of the Dock Company, for future extensions. The dock walls were of Bramley Fall stone throughout. An account was given of a "blow" which occurred in one of the foundations, and which caused the river-bank to give way, and flooded part of the works. The greater portion of the Paper was devoted to a description of the method of forming the foundations for the lock, and of the difficulties which arose owing to springs. These springs had their source in the lower bed of sand, and the water from them found its way through old bore-holes in the bed of clay below the foundation. After contending with these springs for some months, it was found necessary to move the sills to the westward of the site first selected. The springs occurred under the east sill; during the whole of the time they were flowing, the ground continued to subside, owing to the large quantity of sand brought up from beneath the lower bed of clay. As the lockpit was separated from the Humber on two sides by banks, and on the third by a cofferdam, there was a continual risk, while the subsidence lasted, that one or other of these might fail. A very slight settlement had taken place in the invert built on the abandoned site for the east sill, after the walls were finished and backed up, but no further settlement had since occurred, nor had the levels appreciably altered up to the present time. The gates were of wrought iron, constructed by Messrs. Sir W. G. Armstrong & Co.

ROMAN LONDON.

A FEW weeks back we described some remains of Roman London which were discovered during the rebuilding of some houses in Newgate Street. Last week a deputation of the British Archaeological Association visited the place, the builders, Messrs. Haynes (of Thavies Inn) having courteously promised to meet the wishes of the society. The ancient vaulted passage is now partially cleared out for about 30 feet of its length, and presents a remarkable appearance. It is shown to be formed of massive blocks of squared stones, resembling Tisbury stone. The passage ends northward in an external wall, faced with square stones of similar description, and in a bold semi-circular arch, having a broad chamfer on its face. The massive character of the stones may be apparent from the dimensions, one of the stones of the external arch measuring 3 feet along the soffit, while some of the stones of the passage are 2 feet 11 inches and 2 feet 10 inches long. The continuous semi-circular arch of the passage (the arch in two rings before referred to) has been broken through and partly removed. In many places it is backed up by Roman bricks, and in another it sprang from a double course. It will be noticed that along its course it does not spring from an impost or a joint, but that the commencement of the arch is worked out of the solid course beneath it. The Roman walls before referred to have disappeared, but the section of one of them—a cross wall on the City side of the passage, with a double course of Roman bricks, can still be traced. It may be conjectured that the passage was a lateral opening beneath the Roman gate from the roadway, the Watling Street, to afford ready access northward to the towers and bastions of London wall, and that which is now so many feet below the modern level was then above ground. Many fragments of pottery have been found and identified as being of late Roman date. A deep circular well, with a flight of steps down to it, has been met with. These are, probably, of Mediæval date, but are embedded in massive Roman walling. Complete plans and particulars of the remains will appear in the next quarterly division of the "Journal of the Archaeological Association."

THE DARLINGTON GRAMMAR SCHOOL COMPETITION.

At the meeting of the Governors of this School last week the Clerk read the following letter from Mr. Giles, the consulting architect:—

Darlington, March 24, 1875.

To the Chairman and Governors,
Gentlemen,—As instructed by you, I have made a very careful examination of the designs submitted in competition for your new school. I am of opinion that the one marked "Efficiency and Economy" not only best fulfils the conditions of the competition, but is in nearly every respect superior to the rest for simplicity (and consequent economy) of arrangement and general convenience.

I have some doubt whether any of the designs could be carried out thoroughly well at the sums at which they are respectively estimated to be erected, but the one named has several features which admit of curtailment, and in some cases entire omission, without disadvantage to either the external appearance or internal convenience.

I add to this a list of suggested alterations for the consideration of yourselves and the author of the design, and if these are adapted I think you may calculate upon bringing the buildings within the amount named in your instructions. Some of the alterations are absolutely necessary for the proper working of the establishment.

I have great pleasure in being able to add that several designs exhibit a great amount of architectural talent, and are highly creditable to the authors.

Believe me, gentlemen, your obedient servant,
Jno. Giles.

Mr. H. Pease proposed, and Mr. Luck seconded, that the design with motto "Efficiency and Economy," be adjudged the best.—This was carried *sem. con.*—The chairman then opened the sealed envelope bearing the motto, when it was found that the design approved of had been sent in by Mr. G. G. Hoskins.

Designs were also sent in by Messrs. Ross & Lamb, R. B. Dixon, W. Hodgson, W. Bell, J. P. Pritchett and Peachey. The design sent in by Mr. Bell having been favourably reported on by Mr. Giles, it was resolved unanimously that Mr. Bell be paid the same amount, 15 guineas, as was due to the other unsuccessful competitors.

THE NORTH AMERICAN BOUNDARY SURVEY.

THE work and the expense of the North American Boundary Commission are drawing to a close. Captain Cameron, R.A., the British Commissioner, has reported to the Foreign Office that the boundary line between the United States and Canada, from the most north-west point of the Lake of the Woods, due south until the line intersects the parallel of 49 degrees of north latitude, and thence westward to the "Stony" or Rocky Mountains, has been determined in accordance with the Convention of London of 1818. Iron pillars have been placed along the line, in the swampy country, on such available sites as there are, and at two-mile intervals from the swamp district to the western boundary of the Province of Manitoba. Westward from Manitoba to the eastern end of the international boundary, previously run and marked from the Pacific coast, the line is indicated by cairns, generally about three miles apart. With the exception of about 19 miles at the western end of the line, the whole has been cleared of trees. The western end of the line traverses impracticable ground in the Rocky Mountain ranges; and in this length of 19 miles it was considered sufficient to mark only two points—viz., the passage of Belly River and the crossing of Lake Waterton. To provide for the possible disappearance of monuments, and the definition of the line in intervening spaces, the United States' Commissioner has agreed with the British Commissioner in deciding that the line, in traversing these spaces, shall be held to run from point to point of astronomically determined 49 degrees north latitude, following the course of a line having the curvature due to a parallel of that latitude. Maps are being completed at Ottawa. The stock of supplies on hand would be disposed of by gradual sale. The land and buildings belonging to the Commission are also too valuable to be disposed of hastily. Captain Cameron observes that the prospect from the opening of railway communication with the United States this year of a considerable rise in the value of all real estate in Manitoba is very good, and especially so in the case of such as has the advantages of location offered by the site of the expedition winter quarters.

ENGLISH MURAL PAINTINGS.

THE *Northampton Mercury* states:—Another curious painting has lately been uncovered at the parish church of Slapton. Just above the eastern pillar of the nave is the painting of *The Weighing of Souls*, and above this, and extending to the point of the arch on either side, and bounded above by a square black border, is the last-found painting, about twelve feet in length. The principal figure in it is a warrior in armour, mounted, and holding a tilting spear in his left gauntlet, the plume on his helmet and on his horse's head being plainly conspicuous. On the right is represented a spacious castle, with closed gate and a portcullis, and on the top of the front parapet are two figures, seeming like those of a king and queen, with clasped hands. In front of the warrior is another female figure, and from her hands seems to hang a red cord, as if she were leading the horse. In three different places in the painting—viz., on the top of the castle, in front of the warrior, and before the horse—appears a singular plant, with broad leaves. It is not improbable that by this armed figure is represented the founder of the church; as usually in such cases, the founder is depicted on the south side of the nave—perhaps some ancestor of Geoffrey de Lucy, who was "seized" of the manor and advowson of Slapton in the year 1272, and whose coat of arms, consisting of the "three pikes," is in the graceful east window of the chancel.

ARCHÆOLOGICAL DISCOVERIES IN ROME.

AN occasional correspondent sends to the *Swissman* the following account of some recent discoveries in Rome:—The Archæological Commission is always in luck, but seldom more so than in its most recent discoveries. Before the Arch of Gallienus, outside the primitive city of Servius, it has lighted on the pavement of the Esquiline Forum, on which lay a pedestal, roughly moulded, and bearing an inscription referring to the restorations made in the Forum and to the Livian meat market in the fifth century. Also on the Esquiline, in the Piazza Manfredo Fanti, behind the semi-circular tower of the *agger* of Servius, there have been found traces of a private house, with a pavement in white and black mosaic, and with walls beautifully decorated with frescoes. In one of the cells were two earthen lamps, with reliefs representing the three Capitoline divinities, and a bronze statuette of the household god Lar, 10 metres high. Again, on the left side of the Via Merulana, near the church of SS. Peter and Marcellinus, there has been unearthed a marble head, life-size, representing an Egyptian deity; and near the bifurcation of that street with the Via Labicana, a marble sarcophagus with closed lid, containing the skeleton of Porcia Posilla, whose name is graven on the front of the sarcophagus. Furthermore, at the south-west corner of the new Piazza Vittorio Emanuele the Commission have come upon a portico more than 65 metres long, formed of fluted columns of yellow antique marble, supported on basements of brick moulded in stucco. Besides two entire columns there have been found some breadths of pavement composed of the most beautifully-stained alabaster, of which no fewer than 170 slabs—30 metres long by 30 broad—are entire or nearly so. At the northern extremity of this portico were disclosed two little cells, one of which had the walls incrustated with agate, as the numerous fragments lying about demonstrate, while the other was covered with slabs of lava ornamented with leaves of gold. Yet again, on the west side of the Piazza Guglielmo Pepe has been disinterred a cinerary urn of red granite, in the form of an *amphora*, with an inscription referring to a freed woman of Antonia, the wife of the elder Drusus. Moreover, in the area of the new Custom House, near the railway station, there have turned up a bronze statuette 70 metres high, representing an hermaphrodite; another statue of an athlete 12 metres high; the lower part of a nude male figure in silver, much damaged by fire; three bronze bells with handles ornamented with rams' heads; seven bronze basins, and a candelabrum and two lamps, also in bronze. Finally, near the intersection of the Via Gaeta and the Via Volturmo have come to light some remnants of the wall of the substructure of the *agger* of Servius.

PROPOSED SHAKESPERE MEMORIAL AT STRATFORD-ON-AVON.

A PRELIMINARY committee was recently formed for the purpose of ascertaining the possibility of carrying out the project of a Shakespere Memorial Theatre in Stratford-on-Avon, the old theatre in the town having been purchased and pulled down by Mr. J. O. Halliwell Phillips, for the purpose of restoring the site to "New Place," and completing those gardens. A meeting was held at the Town Hall on Monday last, to receive the committee's report; Sir Robert N. C. Hamilton, K.C.B., in the chair. The committee recommended that the theatre should be erected by subscription; that any sum raised beyond the amount required for the building and any profit realised by the rental on ordinary occasions should be applied to the celebration of the anniversary of the poet's birthday, and to the promotion and improvement of legitimate acting, by establishing prizes for essays upon the subject, and ultimately a dramatic training-school or college; that the building should be erected upon a site which has been given for the purpose, the surrounding grounds, from which beautiful views of the church and river can be obtained, to be laid out as ornamental gardens; and that a library and a saloon or gallery for pictures and statuary of Shakesperian subjects should be provided. The report was unanimously adopted; a list of promised donations to the amount of 2,563*l.* 10*s.* was read, and generous offers from managers and members of the theatrical profession of free performances were announced. Subscriptions of the smallest amount will be received.

WAGES IN SAN FRANCISCO.

A STATEMENT, showing the wages received by various trades in San Francisco and California, has been prepared for Mr. David Chadwick, M.P. According to this it appears that "artists are finding increased appreciation and obtaining proportionally better prices. Painters of landscapes, marine views, theatrical scenery, panel work, &c., are in full force, and possess an unusual aggregate of talent. Re-touchers and colourers of photographs obtain from \$3 to \$15 a day. Skilled workers in water-colours command fully as much." Cabinet makers average \$4 a day; house carpenters, \$3 50 c.; foreman from \$5 to \$7 50 c. Engravers generally work by the piece. When employed upon salary they receive from \$4 50 c. to \$6. In cases of remarkable skill or of unusual urgency they command as much as \$10 and even \$12 50 c. Masons receive \$4 and \$5; foremen, \$6 to \$7 50 c.; plumbers, \$4 to \$4 50 c., for nine hours, though ten hours is fast becoming their standard, as it is generally in most mechanical or industrial pursuits. Small tenement houses, containing four rooms, of the lower kind, situated in blocks, bring from \$3 50 c. to \$5 a week. Of the better class, or under separate roofs, a house of four main rooms—kitchen, sitting-room, and two bed-rooms—with usual closets, pantry and sink-room, may be had for from \$5 to \$7 50 c. a week; in the suburbs of the cities, or in the country, generally larger and better accommodations may be had for the same money, or equally good ones for less. The conclusion of the compiler of the tables is that, "taken for all in all, San Francisco and California have never known a time when all the actual enterprises of the present, and the certain indications of her immediate, in fact, we may say, of her whole future, promised as much of cheer and of comfort, when the paths to prosperity and affluence appeared more open to all than at the beginning of this year."



Restoration of St. Stephen's Crypt.

SIR,—I am told that in a Paper by Mr. Longfield, lately published in the *Architect*, there was a statement that St. Stephen's Crypt at Westminster was restored by Mr. Butterfield. Perhaps you will allow me to say that this is an error, as the restoration was designed and carried out by
Your obedient servant,

EDWARD M. BARRY.

21 Abingdon Street, Westminster,
March 26, 1875.

The Glasgow System.

SIR,—The challenge of your correspondent, "An English Architect," who, in a letter which you published on March 20, invited your readers to discuss diversities of architectural practice, especially as regards the process of obtaining contracts and adjusting accounts, should not to be allowed to pass without response. Indeed the subject which he proposes is preeminently one upon which a free interchange of ideas ought to be of service.

The Glasgow system briefly alluded to by your correspondent, and referred to in Mr. Fogarty's sensible Paper, differs from the London in more respects than one, and the less obvious points of difference, must be brought to light before it is possible for us to estimate it at its true value. The plan was described some years ago by a Glasgow architect at a meeting of the Architectural Alliance when I had the honour of presiding, and struck me very much. It is briefly this. The plans of an intended building being got out, the measurer—i.e. quantities-surveyor, proceeds to prepare a schedule, i.e. a bill of quantities, which is to serve the double purpose of an approximate estimate and a schedule of prices. The whole of the items which will have hereafter to be dealt with are put down, but a rough approximation to the quantity (in place of the exactly-determined statement thereof which a London surveyor prepares) is all that is given. Tenders are obtained, and a contract entered into upon this basis: that is to say, the work is let, not for a lump sum, but at the prices contained in the schedule of the contractor whose total was lowest. When all is completed the building is measured in detail; and the experience of the Glasgow architects is that the ultimate total commonly falls within the original rough shot. It is, however, not simply in the nature of the original bill of quantities that the Glasgow plan differs from the London one, but also in the amount of detail. The work is much less cut up; the material and labour on it are in many cases taken together (as is in a very few cases still customary in the south, e.g. "fir framed in roofs, plates, &c."), and the original schedule and the final bill are much less voluminous than with us.

Now, sir, in honest truth the basis of many London building contracts is not very different from the Glasgow one except in name. It constantly happens that, though a lump sum contract is accepted for work, the variations are, and in the nature of things must be, so many and so important that the settlement of the account involves a remeasurement of a very large proportion of the work done, and in the pricing of the bill made out as a consequence of such remeasurement the prices are usually those affixed to the corresponding items in the original bill of quantities. All this is so far similar to the Glasgow plan that I am quite certain there must be many cases, especially where the client and the architect can foresee the prospect of heavy variations, or when time is of paramount importance, in which the employment of an approximate bill of quantities would be agreed to at once if it were proposed and could be recommended. And in many other cases the proposal would be entertained as by no means an unreasonable one.

But it is the wearisome, and as it seems to us perfectly unnecessary, detail of the London surveyor which seems to prevent the possibility of such a plan as is described above from being practically safe. The management of a comparatively small number of items, each bearing an important relation to the whole, is not difficult to a practical architect; and the fact that the items are not unduly numerous has enabled the Glasgow architect to keep an efficient control over expenditure as he goes on. But in London the cloud of minute items which a builder expects to find separately measured is enormous; so that in "moneying out" quantities, when about to send in tenders in competition, builders constantly ignore whole columns, and even pages, and arrive at a result by applying an inclusive price to the large items. In a measurement after the work was done, every one of these small items would be taken account of and priced; and this price, not being kept down by the wholesome check of competition, would swell up the total to a high figure. This endless detail it is, and not the novelty of the mode of procedure, which will prevent our following the Glasgow plan. This is a serious evil and a growing one, and unless some reaction should set in, or some corrective can be applied, it appears likely ultimately to lead to serious difficulties. Could we be content with no more detail in bills of quantities than a practical builder really requires in order to arrive at the value of the work to be done, and could we fix that the measured bill should be in no greater detail than the original tentative one, we might adopt the Glasgow system to-morrow and reap benefit from doing so. As matters stand, it seems as though the approximate total would be so likely to prove entirely deceptive if it were relied upon as indicating pretty nearly the final amount, that nothing but disappointment would ensue. Under the present system an architect enjoys but one comfort—that is to say, if a work is thoroughly well thought out before it is contracted for, it is quite possible to complete it without departure from the contract sum if the architect has firmness enough to insist upon so doing.

Your obedient servant,
T. ROGER SMITH.

General

A Paper on "Practical Construction in the Colonies," by Mr. W. G. Ferrar, will be read at the meeting of the Society of Engineers on next Monday evening.

The Edinburgh Architectural Association have resolved to undertake, as a part of their annual work, the publication of a volume of sketches and measured drawings of old Scottish architecture, and a special committee has been appointed to superintend its production.

The Manchester Academy of Fine Arts Exhibition, just closed, has been unusually successful, the sales amounting to 1,287*l*. Over two-fifths of the whole number of pictures exhibited for sale were disposed of.

The Burlington Fine Arts Club propose to hold an exhibition of the works of Thomas Girtton.

The Crystal Palace at Sydenham is to be sold to a new company, which is prepared to restore the buildings and grounds to their pristine beauty.

A Subscription has been set on foot for placing one or more painted windows in Exeter Cathedral, as a memorial to the late Archdeacon Freeman.

A Return prepared for the Diocese of Exeter according to Lord Hampton's motion shows that 782,303*l*. has been expended in church building and restoring since 1840. This is exclusive of works under 500*l*. The total amount would probably reach 1,000,000*l*.

The Designs of Messrs. T. E. Murray and G. H. Thomas, Architects, 14 Clayton Square, Liverpool, have been accepted for the new Church of St. Lawrence, Liverpool. The other competitors were Messrs. Reeve, Sumner, Buckworth, and Medcalf.

Mr. T. Mollard Reade, C.E., of Liverpool, has been appointed Architect to the Liverpool School Board. The Board intend to erect schools for 1,000 children in Walton Lane, and Mr. Reade is preparing plans for the same.

M. Thiers' "History of Art" is said to be far advanced towards completion. It will maintain the idea that the history of a people can, to some extent, be read in their works of art; and the painting, sculpture, and architecture of many nationalities will be investigated with this object.

Mr. G. M. Minchin, M.A., of Trinity College, Dublin, has been appointed, by the Secretary of State for India, Professor of Applied Mathematics in the Engineering College at Cooper's Hill.

Mr. J. W. Walshaw, one of the chief assistants in the borough surveyor's office, Bradford, has been appointed borough surveyor of Peterborough. There were sixty-nine applications for the appointment.

The Government of India have adopted the paints of the Liverpool Silicate Paint Company for the Queen's Barracks, Fort William. The Calcutta Waterworks Company have also decided in their favour, and sent large orders by last mail.

The Mayor of Sheffield (Mr. Mark Firth) intends, it is said, to erect, as a gift to the town, a college in West Street, at a cost of 15,000*l*. Mr. Firth has already erected and endowed a set of almshouses, and a park which he is presenting to the town is now being laid out. The Prince of Wales will open this next August.

Mr. B. C. Aitken, of Birmingham, died on the 24th ult. He was long connected with art manufactures, having been successively engaged as manager of departments at the works of Messrs. Winfield & Co., Messrs. John Hardman & Co., and afterwards of Messrs. Skidmore's Art Manufacturing Company at Coventry. He was one of the founders of the Midland Institute.

Keats' Grave, in Rome, is to be restored, the Anglo-American residents, under the auspices of General Sir Vincent Eyre, having subscribed liberally for the purpose. Mr. Warrington Wood, the sculptor, has volunteered to execute gratis a medallion portrait of the poet, for which purpose a mask, taken when Keats was in perfect health, has been placed at the artist's disposal.

St. Andrew's, Plymouth, was re-opened on Wednesday after restoration under the direction of Sir Gilbert Scott.

The Goods Station of the Glasgow and South-Western Railway at Dumfries is to be enlarged, at a cost of 10,000*l*.

The Carlisle Corporation have purchased for 6,000*l*. the plot of ground occupied by "Mushroom Hall," with the adjoining premises, as a site for the new public covered market. The area is about 6,300 square yards.

The Southampton Town Council have resolved to construct public offices at the Audit House, at an estimated cost of from 15,000*l*. to 20,000*l*.

Forthcoming Contracts.

Some extensive drainage and other works will be immediately carried out at Torquay under Sir J. W. Bazalgette. Outlay about £400,000.

Various alterations are contemplated to the Buildings of the Inner and Middle Temple. Mr. E. M. Barry, R.A., and Mr. St. Aubyn have prepared designs.

Surveyors will shortly be appointed to take out quantities for considerable alterations to the Corn Exchange, Mark Lane, Mr. E. I'Anson, Architect.

Tenders have recently been delivered for works at Epsom Station. Result not known.

Tenders are required for New Station, Offices, Waiting-room, Platform, Sheds, Foot-bridge, &c., at the Crystal Palace, for the Brighton Railway Company.

The Architect.

IRON ARCHITECTURE.



LAST Monday's meeting of the Institute the treatment of iron as a building material by architects formed an excellent subject for discussion. The Paper was read by Mr. DRIVER, whose claim to be an authority upon the question was based upon the circumstance that he had been employed by an engineer to make the drawings of detail design for a Market-House at Santiago in South America,* which has recently been constructed, or is still in process of construction, and which, like many of our own edifices of similar character, is formed on a system of iron columns and girders. The drawings and photographs of Mr. DRIVER's work were in themselves highly interesting to the meeting and creditable to their author, as a display of elaborate quasi-medieval ornamentation very neatly executed; but it is only fair to observe that their merit was distinctly challenged so far as regarded that novelty or originality of artistic treatment without which it is probably impossible for any such ironwork at the present moment to possess real importance. The artistic design of the architect had been accomplished by the simple process of applying Gothic mouldings and geometrical pierced panelling to the constructive design of the engineer—a thing which, as Mr. DRIVER acknowledged, could be done equally well by any one of a hundred unpretending designers in London in whatever mode might be desired; and so far, therefore, as the problem of inventing an iron style is concerned, it cannot be said that any advance is being made.

Animated, however, by a pardonable sense of the success of his own endeavours to beautify the work of his engineering colleague, the lecturer proceeded to develop the following doctrine. Architects, he said, have declined to accept iron as a new friend to their art; whilst engineers have eagerly adopted it. In stonework engineers have been content to copy the details used by architects; but in ironwork they have boldly struck out a new path. Architects are ignorant of iron, and they permit prejudice to follow upon ignorance, and so dislike and discountenance its use; engineers understand all its arcana, and delight in manipulating them. His counsel, therefore, to his brother architects would be to cultivate the design of ironwork, and his promise to them would be that they would find it devoid of the difficulties they dread and highly productive of the satisfaction they desire. In a word, he seemed to say, iron is the building material of the future, and had better be at once looked upon by architects in that light.

Condescending to definite illustration, Mr. DRIVER dwelt chiefly upon our shop fronts. Iron columns encased in slips of looking glass or enveloped in shawls, and girders disguised to wear the appearance of impossible stone beams, were duly described in the language of ridicule, as they have often enough been described before; and the same surprise was expressed with which we are familiar that no one should have conceived the idea of substituting for these audacious shams the genuine ornamental construction which is natural to iron. So highly, indeed, did the lecturer appear to appreciate this argument that it may be almost said he rested his case in a great measure upon it, and in fact gave occasion to some of his hearers to suppose that he accused the entire profession of the practice of covering every one of their iron girders with lath and plaster, and enclosing every one of their iron columns in a thin deal casing. Now, once for all let it be remarked that this shop front illustration is essentially unfair. Over and over again during the last twenty or thirty years it has entered into the fancy of architects to design shop fronts in the honest articulation of iron construction; and nothing is easier than to do so; but on almost every occasion the shopkeeper has directly intervened. In fact, of all things in the world, a façade of attractive ornamental iron work is almost the least acceptable to a tradesman whose business depends upon the display of his goods in the most conspicuous manner. His supreme desire is to have nothing more than a great glass case, with a signboard over and a stall-board plate under; and at this moment the foremost fashion is to paint the whole jet black outside and some such colour as a bright blue inside, with just as much gilding and picking out, and no more, as shall redeem the "frontispiece" from the aspect of shabbiness without distracting for a moment the attention of the customer from the goods inside. If, therefore, an illustration be desired of the neglect to treat ironwork in the proper spirit of architectural design, let it not be taken in future from our shop fronts.

The unquestionable contrast between the architect and the engineer in respect of the treatment of iron in construction is, however, in its

general aspect, a very fair subject for comment. The case may perhaps be put thus:—whilst the architect is hesitating to design such a thing as a conservatory in the elaborate iron work which seems so suitable to the occasion, the engineer spans the Thames with half a dozen gigantic bridges almost in as many years, and vaults over the prodigious area of the St. Pancras Railway Station with a structure so graceful that hundreds of tons look as light in the air as a feather. Why, then, is this? Of course, to the critics who are content to assume that the architect of our day is an imbecile, no more is needed; the incident is fully accounted for in the simplest possible way. But they who permit themselves to reflect more rationally that such absolute imbecility would be quite at variance with the conditions of these stirring times, and that as a rule the "best abused" are often the most useful, will prefer to suppose that there exist some sufficient reasons which it is only somewhat difficult to ascertain. One such reason certainly lies in the fact that although the mere material may be the very same in engineering ironwork and in architectural, yet the structural effect is entirely different. The engineer is content to see the rude health and simple muscularity of scientific construction; the customary scale of his work is grand; whatever ornamentation is attempted may therefore be crude in character and large in size, and it will correspond with the subject all the better. But with the architect the case is altogether different. For three thousand years of actual legible history he has been engaged in what is more than anything else the most delicate refinement of building. Even in his largest works his details are minute. When most imposing and grandiose in the mass he has perhaps invariably been only all the more dainty and fastidious in detail. The biggest bridge of the engineer is a thing to be seen in the *ensemble*, and anything like finikin workmanship in its minutiae would be absurd; but when the architect groups together the towers of a cathedral to be contemplated from afar, he has at the same time to shape every moulding and model every capital and bench-end as an integer of art to be in itself a study for the connoisseur close at hand. It is not too much to say, that, in so far as regards the design of form, the Ionic capital of the Erechtheum, for example, must have exhausted more of a designer's time and more of his brain-power than all the iron bridges together that now so pretentiously span the Thames. If this is so, there is thus an obvious reason why the architect should hesitate about the use of iron in his particular branch of construction. His work must go into minute detail; the Greek would have polished it like steel; the Goth himself spared no pains upon its elaboration, although within a most limited range of employment and under many disadvantages of the time. Two great questions, if no more, at once come into view. One is that of cost, the other is that of durability. Iron construction, thoroughly elaborated, is, in the opinion of most people, manifestly not worth its expense. Not only so, but it seems to be universally admitted that it must require constant care for its preservation, and that after all, sooner or later, the race will be to the rust and the battle to the "permanent strain." In the engineer's work it is no matter if in the course of years the great roof of a railway station settles considerably out of its curves; or if the painter's bill now and again amounts to a little fortune; but the architect cannot allow himself any such license. Much more might be added; but the more the case is thought over the more must it appear that the scientific daring of the engineer and the artistic enterprise of the architect are very different things.

At the same time, far be it from us to discourage the twofold endeavour to introduce a little more of the shapeliness of art into the designs of the engineer, and a little more of the stalwart strength of honest ironwork into the construction of the architect. That the artistic power exhibited by our engineers is of the most lamentably low order is only too notorious. To remedy this there is only one thing that can be done, and we believe it can be done without disappointment. Call in an architectural designer as Mr. DRIVER was called in. Let the engineer supply him with the skeleton of his structure, and his task will be simply to translate the scientific language of such a scheme into the equivalent artistic language of beautiful forms. And this any clever architect will in these days be found quite competent to do. As regards the more extended use of ironwork by architects, all we can say is that the utmost caution is indispensable. An occasional Crystal Palace, on a large or a small scale, in the shape of a conservatory, a bazaar, or what not, ought certainly to be treated by its architect first in the spirit of honestly articulated construction, and secondly in that of sufficiently elaborated ornamentation. But it must not be forgotten that at the best he is employing a material which has its peculiar faults and weaknesses, and which for the more delicate designs of architecture requires to be very anxiously considered.

The proposition that iron design has yet to be devised, as a system of metallic art, requiring forms and arrangements altogether different from those of stone architecture, is one that can scarcely be as yet gainsaid. To rely upon the divine authority of Greek and Gothic mouldings and ornaments is easy, of course, but it is idle; and this simply because the Greek and Gothic details are alike those of stonework. What those of ironwork ought to be is a question well worth studying; and if the effort now under review has done little or nothing in aid of this, we may at any moment by accident stumble upon something which shall do a great deal.

* See *Architect*, vol. I. p. 179.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

The Taming of the Shrew.

A PLAY called the "Tamyng of a Shrowe" was entered at Stationers' Hall May 2, 1594, by one PETER SHORTE. In SHAKESPEARE we have this play merely remodelled, the many references to costume, furniture, and other surroundings being identical with the older work, except that Padua has been substituted for Athens. This first "Taming" is not unreasonably supposed to have been the work of ROBERT GREENE, who died in 1592. We may therefore safely assume the date of the action to be the same as that of the Merchant of Venice—i.e., 1590.

The induction introduces us to two Warwickshire scenes:—

1. Before an alehouse on a heath; 2. A bedchamber in a lord's house.

The first of these is clearly at Wincot, and the hostess is evidently the fat alewife who has scored *SLY* fourteen pence for sheer ale. Wincot or Wilmecot, anciently Wylmyncote, is three miles from Stratford-on-Avon, a straggling, out-of-the-way sort of place, with poor, half-timbered cottages, any one of which would serve for the exterior of MARIAN HACKER's home.

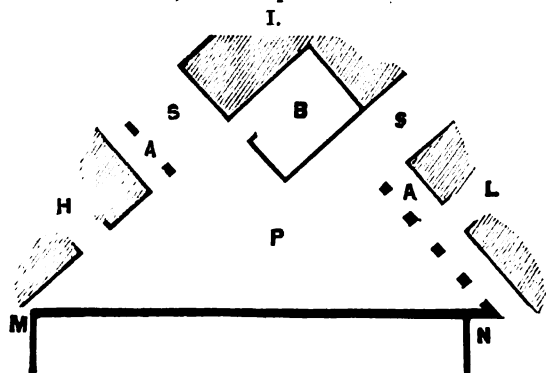
The second scene is necessarily sumptuous. A bedchamber in a nobleman's country house of the sixteenth century is no difficult matter to find. Compton Winyates, the Warwickshire seat of the Marquis of Northampton, is full of them. Charlecote, Warwick Castle, Haddon Hall, or, nearer London, Hatfield or Knowle, may be referred to. The text itself supplies us with a sense of the grandeur of the chamber, its size, and its luxuries. We have "sweet clothes," i.e. scented sheets, jewellery, a delicious banquet, by his bedside. Modern pictures of classic myth hang upon the walls—Aphrodite (Cytherea) and Adonis, Io and Zeus, Daphne and Apollo. Musicians are in attendance. Sweetwood burns on the hearth. There is a silver bason full of rosewater and bestrewn with flowers, a silver ewer, costly dress, numerous servants, and even a private company of players. On the floor would be small carpets or "tapets of Spayne," and matting may be stretched beneath them. The furniture would include carved chests, a carved settle, a few chairs with cushions of leather or cloth of gold or silk (satin) damask, a couch before the fire (once only a royal position), a flap-table, some sconces for candles, and towering above all a four-post bedstead blazing with gilded carving, with gold embroidery, rich vallances, precious fringes and pictured counterpane. When we know that the Duke of Exeter's bedstead and appurtenances cost 2,800*l.* (modern value) we can hardly run any danger of excess in elaborating this item in the scene.

There was no particular costume for the chase in 1590, and the only additions to the ordinary country dress of an Elizabethan lord when hunting would be the horn and its belt, with a pouch and dagger. As it is winter time throughout the entire action of the induction and the play the page should be dressed in a high gown of cut velvet, open in front, disclosing a kirtle of embroidered silk. A ruff should be worn round the neck, a jewelled chain over his breast, narrow puffings on shoulders and lace ruffs on wrists.

Turning now to the play we find the architectural scenes are laid in Padua and in a country house about half-a-day's journey from the town. There are twelve scenes altogether, which may be easily brought into the compass of five.

1. A public place. (Act i. Sc. 1 and 2; Act iv. Sc. 2 and 4; Act v. Sc. 1.)
2. A room in BAPTISTA's house. (Acts ii. and iii.)
3. A room in PETRUCIO's country house. (Act iv. Sc. 1 and 3.)
- [4. A country road.] (Act iv. Sc. 5.)
5. A room in LUCENTIO's house. (Act v. Sc. 2.)

1. The public square or open place in the first Act may by a little management be made to serve the second scene of Act i., the second and fourth of Act iv., and the first of Act v. The second scene of the third Act, which is described as being *before* BAPTISTA's house, may just as well be in the room as in the street; and I can find nothing in the text to prevent LUCENTIO lodging near the residence of BAPTISTA, or to separate HORTENSIO from either.

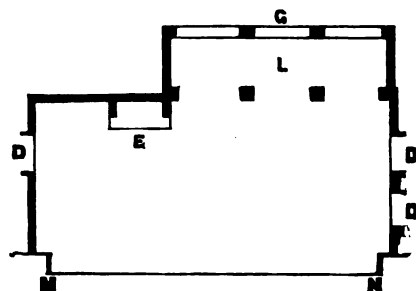


A diagonally-set scene, as suggested in the annexed diagram (No. I.), would give us the open place *P*; the house of BAPTISTA, *B*, with a

courtyard; the house of LUCENTIO, *L*, with an arcade, *A*; the house of HORTENSIO, *H*, with an arcade, *A*; streets, *S S*, going in two different directions; and the proscenium at *M N*. There may be more arcades if the stage is a large one, for Padua was a city of arcades. The style of architecture may be both Gothic and Renaissance, much the same as already described in my notes on *The Two Gentlemen of Verona*. And yet we should remember that, without going back to ANTONIO, a certain air of antiquity characterised this "nursery of arts" in SHAKESPEARE's day even more than now; that although PALLADIO and other architects of the Revival pulled down, built up, and changed pointed for round, the Renaissance never took hold of the university town with that destructive grasp which it laid on so many mediæval towns of fruitful Lombardy. A plain brick building at *L*, with pointed arches to the arcade supporting the front of the house, would mark one very prevalent type of Padovian construction. A Romanesque building at *H* of brick, with some later addition (such as a Renaissance doorway of marble), and a half Gothic half Renaissance house at *B*, would give us that sort of historical sequence and aristocratic air suggested, not only by the known history of the town, but by the language of the opening speech in the play.

2. The room in BAPTISTA's house, forming as it does the scene for the whole of the second, and by the slight alteration I propose the whole of the third Acts, should not only be a carefully-constructed scene, but should be built out as much as is possible with the time at the disposal of the scene-setters. In figure II. I give a diagram,

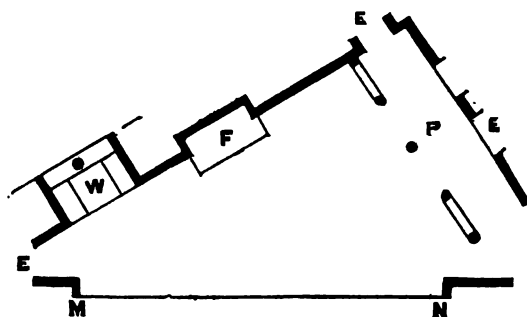
II.



showing an interior, arranged (as indicated by BAPTISTA's remarks) with an open loggia, *L*, with doors leading to the offices, &c., and a door to the private apartments, *D*. *F* is a fire-place; *G*, garden or court; *M N*, the proscenium. Through the open arches the painter could give a view of the marvellous and singularly distinctive church of S. Antonio, with its half-dozen domes and minaret-like towers; a picture that would at once, and with very little labour, give local colour to the scene. For it must be acknowledged that, unless strongly-marked features like this are seized whenever the opportunity for doing so occurs, it would be more than probable that, in those plays where the story and the action are contemporary with the writing, or nearly so, the interior scenes would become monotonous. In the scene now before us I should accept the Renaissance for the style of the architecture, decoration and furniture. And as to the details of these there can be no difficulty. We can find them all, and draw them all in one day, at South Kensington.

3. PETRUCIO's country house might have been a half-fortified Gothic house, or even a castle. The scene is the hall, and the text only demands a large fireplace with andirons and a sufficient number of entrances. PETRUCIO is a Veronese; and in the neighbourhood of Verona, on the road to Padua through Vicenza, are still to be seen many mediæval castles of more or less picturesque outline, which must have been used as residences long after the necessity for such a style of fortification had passed away. This scene would perhaps be best arranged diagonally, as in fig. III., where *M N* is the proscenium;

III.



F, the fireplace; *w*, window recess; *P*, passage, with wood posts and brackets supporting gallery over the passage; *E*, entrances and exits. Let the walls and doors be hung with tapestry, the mantel-piece made a very important feature and built up to the ceiling, and the window carefully arranged, and the effect of such a scene would be realistic and I think satisfactory. But the furniture, of course, must be rationally placed and the acting natural.

4. The country road I leave and pass on to Padua.

5. The hall or dining room of LUCENTIO's house should construct-

ively harmonise with the exterior shown in fig. I.; that is to say, a Gothic brick building would not shelter a Renaissance interior, except so far as such fittings as fireplaces contribute to the character of the rooms.

And now if we turn to the text we shall find the style and character of much of the fittings and furnishing of the scenes indicated by the poet himself. In GREMTO's city house there is wealth of plate and gold, basins and ewers, hangings of Tyrian tapestry, ivory coffers where the money is stored, cypress chests containing his arras, bedding, patchwork quilts or counterpanes, costly apparel, tents, and canopies; there too is plenty of fine linen; he has Turkey cushions bossed with pearl, valances embroidered with Venice gold, and indeed all things that belong to house or housekeeping. Of a surety BAPTISTA MINOLA would have no less.

The Costumes of the towns of Padua, Verona, Florence, Pisa and Mantua, at the date of the action (1690), can be learnt in picture galleries and in the pages of CESARE VECCELLIO. MINOLA's daughters would be dressed in high-bodied gowns, ruffs round neck and wrists, and generally like that I have described in my last article for the lady of Belmont, the difference here being not one of shape but one of costliness of material. Of this however we may be quite sure, that the low square cut dress, so much a favourite with the Venetians, was quite a rarity on the mainland. The University dresses of the doctors and the scholars or students were the same as those of Venice. And the old gentlemen would wear long gowns as in Venice. But the text is so full of references to costume, and our libraries, museums, and galleries contain so many illustrations, that it is unnecessary for me to dwell longer on the subject. I may however add that the play makes mention of painting the face, of a coloured hat and cloak, as the dress of the student LUCENTIO, as distinguished from the sober or black dress of his servant, and reference is made to scarlet cloaks, copatain hats, jerkins, breeches, boots buckled and laced, linen stocks or stockings, kersey boot hose, velvet hose, hat-feathers, blue coats, pumpe and fustian for servants; carpets, leathern jacks, slippers, silken doublets and coats, caps, ruffs, cuffs, farthingales, scarfs, fans, amber bracelets, beads, a very small velvet cap for ladies, and last of all, poor KATE MINOLA's gown made loose bodied, with a small compassed cape and trunk sleeves, curiously cut and snipped all over like to a censer in a barber's shop.

The Tempest.

Presents us with no architectural scenery of any kind. I take the period of the action to be of the time of SHAKSPERE, but if the introduction of the Duke of MILAN makes the historical student uneasy, then there is no reason why the costume should not be put back seventy years or so. In the latter case we should have dresses similar to those described in my notice of The Two Gentlemen of Verona: if we accept the later date, 1590-1600 the costume, as described in my notices of The Taming of the Shrew and The Merchant of Venice will suffice. One thing is especially worth noting that the shipwrecked princes and nobles have their doublets and garments as fresh as when they put them on first in Africa at the marriage of the King of Naples' daughter CLARIBEL to the King of Tunia.

FRENCH GALLERY, PALL MALL.

AMONG the signs of the spring season is the opening of Messrs. WALLIS's exhibition of foreign pictures. As April comes round one looks for the recurring pleasure always afforded in greater or less degree by this little gallery of selected pictures, not one of which is absolutely bad, while many are often the best of their class. The room never presented a better furnished aspect than this year, a fact which need not, and indeed does not, imply that the collection rises above its average merit. Mediocre pictures often tell with admirable joint effect upon a wall, while a work of too assailing genius may cast its neighbours into confusion. The usual number of cabinet gems, studies of assorted colour in elegant or picturesque toilettes, sometimes raised above triviality by a neat satire, as in *The Phrenologist* of L. ROSSI; by a tender motive, as in the lovely *Happy Mother* of F. A. KAULBACH; or by sly humour, as in the clerical incidents of M. CHEVILLIARD, fill up the space not occupied by more important works.

The chief feature of the collection is a picture by M. GERÔME, especially characteristic of the painter, inasmuch as it pronounces by choice of subject and style of treatment the vices and the excellences of his art. *La Danse du Sabre* presents an apartment in an eastern palace, splendid with all the gorgeous hues and play of light that tiled walls, rich carpets, and pierced lattices can produce. A company of gorgeously attired men squat in a circle about a dancing girl, who in the convolutions of a voluptuous dance balances a bared sabre upon her head while she swings another with her right hand. She is partly naked, but a green gauze envelopes her head and floats with the motion of her steps, and a mass of gold coins hang upon her breast. A female companion shakes the tambourine; the audience gaze and applaud. So much for the subject, which is barely removed from the revolting. To the art, M. GERÔME brings, as of old, the outlines of a skilled draughtsman, the detail of an acute observer, the arrangement of colour and composition of a trained painter. Yet is the colour without fervour or nobility; the observation without sentiment, the drawing without tenderness.

Perhaps no other artist could play on such a gamut of crude tints and not produce discord, no other treat an essentially immoral topic with an indifference that leaves the spectator cool. Yet to ourselves there is something hideous in M. GERÔME's indifference; it robs his art of beauty, and reduces it to something coldly calculated, unblessed by that sympathetic enthusiasm which may raise the smallest subject or redeem the most tentative touch. PHRYNE unveiled might be treated with purity, though M. GERÔME was not the artist to do so, and in his cynical presentation of subjects like the *Danse du Sabre* we do not find that delight and power of expressing delight in lovely form or splendid colour which alone can justify the selection of this class of subjects. As was said of M. GERÔME seventeen years ago by a French critic, "*il sait renouveler des succès sans renouveler son talent*;" there is nothing in this wondrously clever picture to indicate growth in the artist's perceptions or powers. As a novelty may be accounted the two life-size figures by M. DUEZ, *Misery* and *Splendour*, which attracted much notice in last year's Salon. The artist seems to have more love for the pretty lady with yellow hair, arrayed with sumptuous picturesqueness in silvery grey and blue-green velvet, than for the poor old *chiffonière*, her pendant; at any rate there is more art in the treatment here. M. DUEZ paints rags and dirt and poverty in their degradation, with a sort of deliberate slovenliness, while the harmonious colours and deftly cast lines of silk and velvet and fur are thrown off with supremely artistic ease. This kind of fling in picturesque fashionable portraiture seemed to be much the rage in Paris last year. There is really very little to arouse fresh interest in the remaining pictures, though one may well be content to dwell lovingly upon the work of familiar and favourite painters. The three contributions of M. BILLET; however, are somewhat of novelties. A *Breton Mussel Gatherer*, *The Young Ducklings*, and *Tobacco Smugglers, Poland*, are all marked by that frank naturalism, attuned by fine sympathies with rustic life, that has grown up in the school of MILLET and JULIUS BRETON. The *Tobacco Smugglers* appeared in Paris last year, as also the *Wood Gatherers*, a picture which was reproduced by M. M. GOUPIE in *The Portfolio* for February. M. MÉNARD, in the accompanying notice of PIERRE BILLET, remarked that the artist in this delightful transcript from rustic nature showed an individuality in his *genre* which marks him for future fame.

Two more artists, Germans this time, we must welcome as new comers. Professor HOF, of Dusseldorf, whose picture, called *The Startled Fawn*, shows a broad and pleasant manner in the treatment of foliage, which is a surprise, as dating from Dusseldorf, and a fresh sense of colour, and Herr DEFREGERER, *The Zither Player*, by the last-named artist, is delightful within the bounds of the simple subject; the attitudes of the pleased and handsome musician, smiling over the harmonies he draws from the little instrument on his knees, and of the two attentive maidens looking on, are cast with a free and vigorous hand, sensitive of nice expression; the touch is crisp, and the colour well accordant.

Among clever pictures of incident must perhaps not pass without especial notice *The Conjuror*, by M. AGRASSOT, and *Behind the Scenes*, by R. RIBERA. The first is all fun and finery, brilliantly painted up to the mark of the subject, with the effect added by the gay Spanish costumes. The last tells the old story of an accident to a female acrobat or dancer, fainting and wounded amid the grim incongruities of comic actors, green-room loungers, and mechanical stage robs. The picture is cleverly painted, but the main purpose of it seems to be the pink legs of the suffering girl, which, to say truth, are not beautiful, but simply vulgar. We were about to forget mention of a picture which, being hung high, might escape the notice it deserves. *L'Attente*, by S. ANKER, shows a fisher's wife with her babe seated on a log breakwater or raft, looking out along the shining expanse of pale water for her husband's return. A simple motive enough, but the turn of the watching head, the pose of the figure with bare crossed feet upon the rough wood, is full of tender suggestiveness.

We leave unnamed a crowd of pictures, including some admirable landscapes, which all speak for themselves of familiar styles and men about whom, unless represented by unusually important works, there is nothing fresh to be said to frequenters of London exhibitions.

ART IN RUSSIA.

A CORRESPONDENT of the *Standard* says that an effort has been long making to raise, by public subscription, a sum for a monument to the great poet Poushkin, and 70,000 roubles have been collected. One public competition of the sculptors has failed, none of the designs being approved, and another is now about to come off, and, it appears, with some chance of success. A certain M. Autokolsky, well known for an admirable statue of Ivan the Terrible, will exhibit a model, the idea of which is both simple and original. The poet is seated on a rock, round which winding steps are cut, and up these steps the various characters created by him are seen ascending. The figures of Potemkin, Suvaroff, and others on the pedestal of the monument to Catherine II. are good in themselves, but the effect is lost by the appearance they have of being pinned against a wall, whereas M. Autokolsky's design leaves each separate figure free and unrestrained in pose and gesture. Should the execution be found equal to the thought, and good judges affirm it likely to be so, this monument will be one of the most remarkable in Europe. The cost will certainly far exceed the sum in hand, but any sum might be found to do honour to Poushkin. There is a portrait of him now being exhibited at the Academy, and the praise bestowed upon it is far more due to a patriotic prejudice in favour of the subject than to the intrinsic merits of the painting.

FINE ART UPON THE WATERS.

IF the saloon of the *Bessemer* Channel steamboat fulfils all the purpose intended in its mechanical contrivance, the story of "Cupid and Psyche," painted round three sides of it by Mr. A. S. Coke, is not unlikely to become exceedingly popular, to be identified with some of the pleasant passages in life, and to give rise to the wildest interpretations.

The saloon is divided into three bays, and in a panel filling each side of each bay is a scene in the career of Psyche. At the upper end of the saloon, each side the entrance, is a narrow panel. One containing the figure of Eros (Cupid), the other that of the heroine of the myth. This story (beautifully told by Mr. William Morris in "The Earthly Paradise") may be thus roughly stated—Psyche, the youngest of three princesses, was so alarmingly lovely and lovable that the altars of Aphrodite were left bare; the goddess's envy was roused, and she sent Eros to inspire her rival with love for the most degraded of men. Instead of doing this, Eros falls in love with her (himself unseen by her). She is then carried by Zephyrus to the palace of her god-lover, who visits her only in the night, warning her that she must never attempt to see his face. All would have gone on happily and smoothly enough but for woman's interference. Her envious sisters visit her and persuade her that the lover is something revolting and monstrous to look upon. Weakly enough she listens, and when Eros is asleep gets a lamp and sees, instead of a monster, the most beautiful of the gods. Eros, waking at the moment, is disgusted at her mistrust and her listening to idle gossip, so in spite of all her entreaties he leaves her without a word. Then the poor Psyche wanders about disconsolate, attempts to drown herself, meets Pan teaching Canna to play upon two pipes, and is in a measure calmed by his advice. She now commences a course of labour as well as suffering, begins her work like a slave in the Temple of Ceres, binding up the sheaves, and ends her troubles by descending to Orcus (Hades) to receive from Persephone a casket for Aphrodite. She opens the box, but faints with the perfume that escapes, and is revived by Eros, who, unknown to her, has helped her in her work as no one else could have done. Then comes the end—reconciliation with the angry goddess, a return of happiness to Eros, and immortality for Psyche.

Mr. A. S. Coke, to whom the "Criterion," in Piccadilly, is indebted for its chief artistic attraction, has told this old Greek story of the envy of Aphrodite, and the love of her son, certainly to delight the eyes, and it is to be hoped to delight the mind, of the first-class passengers who may cross the straits of Dover in the *Bessemer*.

And now for a few words as to the method, the composition, and the colour of the paintings. The isolated figure of Eros in the first end-panel, and that of Psyche in the second and panel, are the finest, taken altogether, of the entire series. The *posé* of both, and the colour, both of landscape and figures, are wholly lovely. In the first scene, representing the arrival of Eros at the royal palace of Psyche's father, the colour and composition are deficient. There are too many high lights in the same plane, and the figure of Eros introduced into the background on the reduced scale, necessitated by perspective law, is unfortunate, as it is the only instance of reduced scale in any of the subjects Mr. Coke has here painted. In the second scene, the great crimson wings of Eros are extended ready for flight, whilst Psyche, fallen on her knees, clings to his waist in an attitude as lovely as despairing. Her white, close-clinging, soft Ionic chiton (or tunic) and the wavy folds of the blue peplos that has fallen to the ground and clings about her legs are exquisite in drawing and colour. Had the *posé* of Eros been equally satisfactory, and the architectural background a little differently treated, we should have had one of the most successful decorative pictures of modern English painters. The third panel is much more equal in its character. Pan is seated with Canna in the shadow of some trees; there is a landscape, with a river in the background, and Psyche, with body and head thrown backwards and wild forth-reaching arm, is passing by Pan disconsolate and oblivious. This action of feeling, as it were, the impalpable air, is very significant of the madness of grief, and this figure expresses it intensely. The other parts of the picture are also well composed, and, taken altogether, is the most successful of the series.

The next two panels, representing the labour of Psyche, are not up to the level of their companions, but the last—where she reclines fainting on a garden seat, while Eros reaches round her for the jar of immortality, borne by Ganymede, at whose side Aphrodite stands looking on—has many fine passages, notably the figure of the goddess, which, by the way, is scarcely the Cyprian queen, charming as it most unquestionably is. It is to be regretted that Mr. Coke should have executed these works in a style which might serve very well for the frieze of a room, but is scarcely fine enough for the eye-level.

MR. GLADSTONE'S PAINTINGS AND POTTERY.

WE understand that Mr. Gladstone is about to follow up the sale of his house on Carlton House Terrace, by the disposal of the pictures which enriched its walls, together with the collection of pottery and porcelain which, it is well known, took Mr. Gladstone several years to collect, and which has recently been exhibited at the Brown Museum, in Liverpool. The sale is to take place at Messrs. Christie & Manson's rooms, in June next, and the pictures will include about one hundred specimens in the Spanish, Italian, Dutch, and English schools, together with engravings, bronzes, and marbles.

The pottery and porcelain consist of choice English and foreign specimens. The sale will also include a quantity of ornamental furniture, of the time of Louis XV., together with old German and Italian silver-gilt plate.

Mr. Thomas Newenham Deane, B.E.A., has by Special Treasury Minute been appointed Inspector of National Monuments in Ireland, an office for which he possesses special qualification. Mr. Deane's duties will consist in securing the maintenance of ancient buildings in Ireland transferred under the Church Act.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AN ordinary general meeting was held on Monday evening, Mr. R. Currey, vice-president, in the chair. The death was announced of Mr. George Vaughan, Associate, and Mr. J. E. Waring, Fellow, the Chairman observing that such intelligence must be a source of deep regret to all, as he believed that both Mr. Vaughan and Mr. Waring were known to the members of the Institute.

Professor Kean thought that some tribute was due to the memory of their late friends. Mr. Vaughan was a young man of remarkable promise, and known to them in conjunction with his partner, Mr. Ernest George. With regard to their old friend Mr. Waring, he had fulfilled the promise of his early days in a very satisfactory manner. He was always to the fore in any question of artistic architecture, so to speak; his knowledge and experience were great, although his professional energy might not have been on a par with his other qualifications towards the close of his career. There was no doubt that the Institute had sustained a great loss in the death of two valued members.

The CHAIRMAN stated that the District Surveyors' Association had given ten guineas to the Library, and Mr. E. Nash had made a donation of five shares in the Architectural Union Company to the general funds of the Institute.

A ballot took place for the election, as follows, of Mr. R. W. Albany (Associate), 164 Friar Street, Reading; Mr. R. H. Carpenter (Associate), 4 Regent Street; and Mr. A. H. Parken, of Bournemouth, and they were all duly elected.

Some other formal business having been disposed of, Mr. G. H. Daines, Fellow, read a Paper on.

IRON as a Constructive Material.

Mr. DAINES said:—It is only of late years that iron, as compared with other metals, has been used as a constructive material, but it was known and employed for various other purposes from the very earliest times; and though it is now the metal of all others the most frequently used by, and is the best adapted of any to the requirements of the architect or engineer; it is, as I say, comparatively recently that its great value for building and constructive purposes has been fully appreciated, and, to a certain extent, utilised; and it is with the hope of showing that it may be employed in a still better manner than at present, I venture to take up your time this evening.

Though the use of iron by architects in building structures has enormously advanced, the credit of discovering and applying the great advantages that iron unquestionably possesses over almost every other material to constructive purposes, is due, I think, to the engineers and not the architects. Architects as a body have neglected and slighted this universally useful metal, either rejecting it altogether, or employing it as it were under protest, and as if they were ashamed of it; they use it in fact as a drudge, and not as I venture to think they should, as a valuable friend, equal indeed to most other building materials and superior to some; valuable both for constructive and decorative purposes, and I apply these terms in the same sense as we employ them when speaking of wood, stone, or any other material we use in building; and while it is remarkable that we should have thus neglected it, the way in which engineers seized it is no less remarkable, for they with wonderful acuteness brought their science and practical knowledge to bear upon it, producing results that ought to be an example to us; for, as a rule, engineers, with regard to brick or stone, pay us the compliment of copying as well as they can our architectural forms and practice; but with respect to iron the reverse is the case, as they, finding that architects had done, I will not say could do, little or nothing with it, struck out a path for themselves, and it cannot be denied, have achieved in it a great success. I think, however, it is unfortunate to some extent that they did so, for it is in a great measure the cause of the want of appreciation iron obtains from architects; not because architects are jealous of the success of the engineers, but rather because of the disgust they feel at the inartistic result of their labours. Can this be remedied, and can iron be placed in its proper position with regard to architecture? I venture to hope it may, by taking advantage of the practical skill and knowledge which engineers have already obtained, and upon the foundation laid by them, advancing step by step, till we succeed in finding uses for iron both in construction and decoration, which, while perfectly adapted to the material, will yet combine and harmonise with those we have heretofore had in use.

Let us consider for a moment some of the principal attributes of iron, and then see how architects generally take advantage of them. As regards wrought iron—first, it is very strong, bearing a working tensile strength of from five to six tons, and a compressive strain of from four to five tons per inch of section, and as regards strength it is as twenty-seven to five as compared with oak, and as twenty-seven to four as compared with fir; and yet if it is employed as a beam or girder, it is generally so swaddled up with cradling and lath and plaster, that as much room is taken up by it as if it had been a beam of oak or fir. Then again it is very light as compared with its strength, but by the same process as last mentioned, its weight is brought up to that of a wood beam. It is very ductile, easily hammered to any variety of shape, and yet almost the only form ever given to a wrought iron girder when used in building, is that of the ordinary rolled or plate girder.

Again, iron, though very durable, is not an imperishable material, and this appears to be practically forgotten, for though, unlike wood and perhaps stone, it is free from internal deterioration, yet it is liable to serious destruction by rust and oxidation of its outer surfaces; a most important point considering the fact that but but excess of material is usually provided than is absolutely necessary for the required work, and therefore it would be but reasonable to suppose that when used arrangements should be made by which all parts of a girder or column to which it is readily inspected; but in this system in vogue the reverse is the case.

for the girder is so covered and hidden up that no inspection is possible, nor can any means be taken to paint or otherwise preserve it from the inevitable destruction that must result from rust. It is almost the same as regards cast iron; it is a material admirably adapted for columns, from its fitness to bear great compressive strains, and by its very nature capable of assuming almost any form that architects may design, from a plain column to the most elaborate effort of ornamental art the mind can conceive, yet as ordinarily employed the cast-iron column is either a plain round shaft with a square cap and base-plate with gusset-pieces to strengthen their connection with the shaft, or as a storey-post like a girder standing up on end; this column or storey-post is often covered with lath and plaster, and appears in the glorified shape of a Doric, Ionic, or Corinthian column, with cap, &c., to match, or as is the case in most shops, it is left in its native bareness behind a plate-glass front.

I repeat that we are glad enough to make use of the strength, lightness, and adaptability of iron, but we are ashamed to acknowledge that we have employed it, and therefore cover and hide it up; and I think this *sin* in a great measure from the idea (a mistaken one, however) that iron does not accord with other materials, and is unsuited for architectural forms, and, therefore, if we use it (as at the present time we are almost compelled to do) we should do our best to hide it up as much as possible; and it is argued that it is necessary to lath, plaster, and case it up to satisfy the eye, as from its strength so little is required that no effect can be obtained in using it, and, therefore, it is better to cover it up with other materials to avoid the thinness and poverty of appearance that is produced when employed alone, in the same way that the flesh covering the bones produces a beautiful form, and at the same time hides a ghastly skeleton. But does the hiding up of iron by other material meet the object intended, viz., better effect? (and setting aside for a moment the principle of honesty of construction) is not the result obtained most unsatisfactory? For owing to the introduction of iron much larger spaces are bridged over without requiring columns and arches than heretofore, and hence there is produced a bareness and an apparent weakness anything but satisfactory to the eyes. As an example, I will take that most familiar one to all, the shop front; there, as a rule, we have a structure of three, four, or more storeys high, with elaborate and massive architectural features, columns, cornices, pediments, &c., piled up with lavish richness, all carried apparently by a stone lintel of twenty, thirty, or forty feet span, and of an absurdly little depth in proportion to what in appearance it has to carry over a huge field of plate glass; while, as we all know, the real work of supporting the fine front is done by the wrought or cast-iron girder, which is hidden behind the stone fascia aided by cast-iron columns or storey-posts, as the case may be. The effect is not pleasing or satisfactory for it is untruthful, and I contend that if the money spent upon the sham lintel that forms the casing to the girder were spent upon the girder and column by making them pleasing in design and form, the effect would not only be much better but positively good, for though we should still have the wide span and the plate glass under as before, yet we should see how the building above was really carried, and as we know that iron is strong and capable of doing its work, the eye as well as the mind would be satisfied.

With regard to this point, viz., the satisfaction of the eye, it is possible that the eye may require some amount of education before it becomes accustomed to the use of iron and its employment in connection with other material. For we are so accustomed to see beams, columns, and brackets of certain proportions that we are at first sight shocked at the idea of detached columns of twenty-five or thirty diameters carrying great loads, or slender beams carrying a heavy building; and it is difficult to adjust their proportions with the styles of architecture we have in use. But I have hopes that architects will, if they give the matter their earnest attention, with the sincere desire to succeed, produce designs for iron which, though not perhaps exactly in accordance with any existing particular style, shall yet harmonise, even perhaps by contrast, with them. Iron sometimes meets with other but very different treatment from the hands of architects, and I hardly know which is the worst, for instead of being hidden, it is brought prominently forward, but then not as iron, but something else, such as stone or wood, especially so in the case of cast-iron, for not only is it made to represent the last-named, but it also appears in the guise, or rather disguise, of wrought iron. I may instance balustrades, vases, parapets, tracery, &c. A prominent example of its misuse in this way is seen in the parapet and spandrels of Westminster Bridge, though happily, however, these were not the work of an architect.

There is, I think, another reason why architects as a rule ignore iron as a constructive material, and that is perhaps the most general one, viz., few of them comparatively know anything about it, never studying or looking upon it other than as the aforesaid useful drudge, and this more especially so with respect to wrought iron, and as to cast, they may perhaps use it for columns, railings, finials, or rain-water gutters and spoutings, but these they take ready designed from an ironfounder's catalogue, and they may, or, which is more often the case, may not harmonise with the rest of their design, they thinking it is not worth their while to take the trouble to design such things for themselves. Or if they want a wrought-iron girder, they are, perhaps, able to work one out from the simple formulae given in the various handbooks; or, as is more likely, they leave it to the builder's foreman. But if the quantity required is large, and the work important, they then employ an engineer to work out the calculations, and as the engineer (with every respect to him) cares nothing about art, but a great deal as to whether his girders are strong and economical, it is very probable that the resultant work is ugly, and as without doubt the ordinary plate girders and columns, used in buildings generally, are ugly, the architect naturally enough covers them up with a material he does know something about, and therefore can design in; but if the architect did know and understand as much about iron he would calculate for himself, and study to so design his girders or columns, or whatever else he may require, that the result should be artistic and suitable to the structure for which it was intended.

Surely architects, if they will, can so design their girders in wrought or

cast iron that they shall be pleasing and effective. Let them but take the trouble to draw them out and calculate them for themselves, they will soon find it is easy enough to arrange flanges, webs, cover plates, angle and tee irons so symmetrically as to be pleasing, and still preserve the necessary scientific proportions and the relation of the several parts to each other in a practical manner—plates and angle and tee irons are now rolled in such lengths that very large spaces may be spanned by girders without any cover or junction plates being required. As for instance, plates can be obtained from 20 to 25 feet long by 2 to 3 feet wide; angle and tee irons up to 30 or 35 feet or even 40 feet. Many varied forms and even mouldings could and would be rolled, if manufacturers found there was a demand for them, and that it would pay to make the necessary rolls.

Reverting for a moment to the point that the constructive employment of iron is of comparatively late date, it is worthy of remark the significant fact that the artists of the Middle Ages had brick and stone and other materials, but no iron—at least not in quantities they could make structural use of, and they made such good use of the materials they had that we are feign to copy them. Is it not therefore fair to suppose that if they had had iron at their command as we have, they would have produced works in that material as admirable as are their works in others? and I am justified in assuming this from the wonderfully beautiful works they achieved in the ornamental wrought-iron work they did make. I cannot help, therefore, feeling that, to a certain extent, the poor results we have accomplished with all the facilities we have at our command is not a cheering instance of the progress of true art in these modern times.

There is yet another matter closely connected with iron as a constructive material which requires attention, and that is the relative positions in which wrought and cast iron should be placed, viz., whether in internal or external work, and this more especially applies to ornament. Now it is a certain and well-known fact that wrought iron is much more susceptible to the influence of weather as regards oxidation than cast, and though, therefore, there can be no question as to the superior art and beauty of wrought iron, yet it is a matter worthy of some consideration, if it be not more advisable, for the sake of durability, to employ cast iron for ornamental work externally, and confine our use of wrought iron to purposes of internal decoration. I am perfectly aware that in advocating the use of cast iron ornament at all I am touching upon dangerous ground, as I know that among many of the highest authorities there is a strong feeling against it, but be that as it may, the fact remains the same, that cast iron is better adapted for external work than wrought, and I am inclined to think that the feeling which undoubtedly does exist against it is due to the way in which it is misused, and that if the design is properly adapted to the material one of the principal objections to its application is removed. I know it is said that cast iron ornament is inartistic, showing no feeling, utterly wanting in individuality, and vulgar in the extreme, so that cast iron ornament has almost become a bye-word; but surely it is unfairly treated, for might not the same be said of work in bronze? A work in cast iron requires to have a model prepared and a mould made, so also does a work in bronze. The iron has to be melted and run into the mould, and it is the same with bronze; if the model is badly designed and badly executed in either case, the resultant cast will be bad also.

With respect to iron as a constructive material, the different qualities of the metal used is a very important and serious point, much more so than at first sight appears; for, as in the case of cast iron, there is not only a great difference of strength in the different brands, but also in the same iron, from the manner in which it is manufactured, and it is almost impossible to judge by the outward appearance of a casting whether the iron used is good or bad, for even when fractured it requires great skill and experience to do so. I do not, however, purpose to go into this matter this evening.

Hitherto I have only spoken of matters which concern iron as a building material, but I propose, with your permission, before closing my Paper, to add a few remarks upon constructive ornamentation of ironwork, or, as it would perhaps be better to put it, the ornamental construction of ironwork; for, though in my previous remarks I have several times referred to ornamental work in iron, it has been irrespective of its being constructive or otherwise. I can, however, only give a passing glance at it, for the subject is one which in itself would extend to almost any length.

We most of us know what ornamental construction consists of in wood or stone as opposed to constructing for ornament, but it is, I confess, difficult to apply the principles which guide us in the last-named materials to iron; for though it is true we can, as I have said, so arrange our tee and angle irons, webs and plates, &c., that they shall be symmetrical, that is not all that is required, for true ornament does not consist in symmetry alone, though symmetry is a very important element in it. We are placed in this difficulty, that almost any ornament we employ on constructive ironwork has to be itself constructed, thus flying in the face of that golden rule of ornament which tells us to "ornament our construction and not to construct for ornament." When working with wood and stone and some other building materials we can build in blocks or masses of material, and cut and carve them as it seemeth to us best, and it can hardly be said that we are able to do this in the same sense in iron; but though we cannot carve it, we can stamp, emboss, engrave, and even mould it if we will, for machinery is now so powerful that mouldings, splays, chamfers, &c., can be executed in this material with nearly the same facility as in wood; and there is some ground for consolation in the fact that whatever difficulties we may have to encounter with respect to having to construct for ornament in iron, the same difficulty has to be met with respect to all other metals, and I am inclined to take advantage of "there being no rule without an exception," and make that exception in favour of iron and all other metals; but though we may have in some measure to construct our ornament, I think we should be careful to so manage it that the ornament we do employ shall not be wholly useless, and that if it does not add much to the strength of the structure it shall not at least be detrimental, and, therefore, all added ornament in ironwork should I think be of the very lightest description, and if not actually constructive, it should at least

grow naturally from, and appear to be part of, the real constructive portion of the work.

Time, however, will not permit to go further into this point, which is in itself a sufficient subject for a Paper, which at some future time I may ask to be allowed to read.

Allow me, in conclusion, to thank you for your attention, and at the same time to request your kind indulgence for much that I have said. Many of you, as I know, have already by your works anticipated my ideas with respect to constructive and architectural ironwork; and to you, therefore, my remarks, I fear, have been tedious. But still, I hope you will endorse my views, as I have been encouraged to maintain them by the knowledge that, among those who stand the highest in our profession, there are some who have not thought it beneath them to design in iron, and with successful results—pardon me, if I mention the name of one, our honoured President, Sir George Gilbert Scott.

Mr. A. PAYNE, in proposing a vote of thanks to Mr. Driver, said that with the permission of the Secretary he exhibited a model of a new method of constructing vaults and floors of concrete with iron ties, without girders and without thrust. He had recently carried out this method of construction in a large warehouse, and the result had been very satisfactory, the cost being materially diminished.

Mr. SKIDMORE, in seconding the motion, said he thought it was unfortunate that stone should be so commonly preferred to metal, whereas metal was a most valuable material, both constructively and ornamentally. In the olden times a large amount of metal was used, and gold was lavishly employed in the Temple at Jerusalem. Castings should not be executed in imitation of stone, but in their natural legitimate forms. In large churches or buildings of a considerable span iron might become much more available, and in designing columns the old type need not always be followed, but they should endeavour to work out new forms of beauty and utility.

Mr. FOWLER said that he remembered in one of his father's warehouses (built at a time when cast and wrought iron were not so well understood as now) cast iron was, he believed, used in a most satisfactory way as regarded economy—not in imitation of any other form, but in a form that answered its purpose: a girder, for instance, was made to serve the purpose of a gutter. The great difficulty about cast iron was to divest the mind of its being cast iron, it should be treated simply as a cast material. The question of wrought iron was beset with difficulty, the material being expensive, and the labour of working it expensive, whilst the forms into which it went were not pleasing. The endeavour to ornament wrought iron would have the effect of making the structure look heavy and not ornamental. Although some features might be susceptible of ornamental treatment, he thought difficulty would be experienced in the matter of common rivets, and any architect who succeeded in overcoming such a difficulty would be entitled to the thanks of the profession and the public at large.

Mr. MATHESON said that architects always seemed to use cast iron in an apologetic way, but he thought this was to be deprecated. There was a common belief that cast iron had little or no elasticity, but that was a mistake, as it might be used where there was a good deal of percussion and in light forms. Bridges of large span might be constructed as well with the aid of cast iron as of wrought iron, and he ventured to predict that Southwark Bridge would survive a good many other bridges, notwithstanding cast iron had been used in its construction. He believed a good many engineers held the opinion that a mistake had been committed in employing wrought instead of cast iron for Blackfriars Bridge. If engineers and architects were a little bolder, he was persuaded that they might often apply cast iron to purposes for which it was now deemed unfit. The effect of rust on iron was not sufficiently appreciated, and he had seen large buildings in the City of London carried on box girders that were inaccessible to the painter and not air-tight; and such was the effect of the atmosphere, that thirty years hence the iron would decay and the buildings have to be pulled down and rebuilt. He feared that much of the dislike entertained by architects towards cast iron was attributable to the bad way in which it was used, and also partly to the circumstance that the material was not supplied direct from the best manufacturers, but was filtered through the builders—the result being often unsatisfactory.

Mr. EASTLAKE suggested as an interesting inquiry the reason why modern ironwork was so much more liable to rust than that of former years. He was told that it might be accounted for by the use of coal in the manufacture of iron.

Mr. MATHESON considered that the atmosphere had a great deal to do with the rusting of iron, and in London iron would not last so long as in Paris. When wrought iron came into contact with the atmosphere, a sort of black scale was formed which was bound to come off sooner or later. After the first scale had been peeled off, the iron should be protected.

Mr. SKIDMORE said that wrought iron should always be "pickled" by the application of sulphuric acid, and architects should insist on being supplied with iron that had been pickled.

Mr. AITCHISON said that the subject was sufficiently extensive to occupy several evenings in its discussion, especially if the artistic treatment of wrought and cast iron was also taken into consideration. The advantages of cast iron were frequently very great, and its power of resisting compression was enormous in comparison with other materials: for columns, also, nothing could be more economical or be put in so convenient a form, and the only objection to it was its liability to destruction by fire. For girders cast iron had disadvantages where the impact was considerable, and was seriously affected by the frost; he had known girders crack right across after considerable frost, and the consequences were serious. Cast iron might be conveniently disposed for girders of some shape, such as gutters, but the process was costly, owing to the great sacrifice of material. Wrought iron had advantage over cast, particularly in reference to

girders, it would bend more and was more easily worked. As far as cast iron was concerned, it was open to an unlimited variety of ornamental treatment; but they now lived in an unfortunate period when architecture might scarcely be said to be in existence, and any attempt to treat a new material as a new material and in a new form was regarded as hopeless. New forms, it was true, had been tried, but they were so hideous as scarcely to merit the name of architecture at all. In dealing with cast iron they had to some extent their hands tied, and it would need some Heaven-born architect to arise to stamp these forms with a pleasing shape. They should strive after gracefulness of form apart from mere ornamentation, and their difficulties would then be diminished. The process of ornamenting cast iron by means of holes was attended with some risk, and this led to the ornament being stuck on afterwards. Then as to wrought iron, the expense was an important consideration. No doubt it could be hammered or cut in any shape, but the difficulty was to get it done in the plainest and simplest way.

Mr. DIXON considered that the Paper was worthy of the greatest attention, for looking at the present condition of architecture in this country it did not appear to him that sufficient regard was had to the advantages offered by iron for architectural forms and economical construction. If the great architects of the past had possessed the materials at the disposal of architects of the present age, he believed that they would have used them to better purpose, and ascertained their capabilities. It was incumbent upon modern architects to devote more attention to iron as a constructive material, and he maintained that the use at present made of cast-iron did not reflect credit upon the architectural profession.

Mr. T. CHATFIELD CLARKE thought that he might retort upon Mr. Dixon with a *tu quoque*, as engineers possessed many opportunities of making iron both a useful and ornamental material, but their productions were decidedly not ornamental.

Mr. DIXON: Engineers do not profess, like architects, to be artists.

Mr. CLARKE thought that the hideous monstrosities perpetrated by engineers, who had such abundant means and opportunities at their disposal, were enough to make the angels weep. In the use of cast-iron the difficulty was to obtain repose. What repose was there in the spider webs at the Crystal Palace? It was very difficult to obtain satisfactory castings of ornamental ironwork, and architects had to complain of the careless way in which columns for a great job were frequently supplied by the manufacturers.

Mr. MACFARLANE maintained that the difference between iron of the past and present day was due to the hot-blast process, which had the effect of introducing a lot of rubbish into the body of the iron—a mass of foreign matter being thus incorporated with the material. It was a mistake to suppose that cast iron could be treated artistically at a cheap rate, for the production of an artistic casting was attended with considerable expense, from the number of processes it had to go through; it was only when applied in repetition that cast iron could be introduced under the best auspices. Architects should guard against unduly going into new designs of their own, as they would more wisely employ their funds by obtaining designs in cast iron from the manufacturers. One point had not been sufficiently brought out, namely, the capacity of cast iron in the architects' hands to fulfil the purposes for which a building was designed; it was, in fact, a most valuable material in a constructive as well as an artistic point of view, and Mr. Macfarlane thought it was a subject for considerable regret that the architectural profession should pay so much attention to a material like terra cotta, and comparatively to neglect such a material as cast iron.

Professor KERR said he had heard a great deal that was both picturesque and agreeable, but it was a mistake to suppose that the properties and capabilities of iron had been neglected by the architectural profession. Mr. Driver had stated that architects were in the habit of concealing the iron as a constructive material with lath and plaster, but that remark did by no means apply to all architects, and his animadversions, therefore, were to that extent unnecessary. It was necessary that architects should be on their guard against sweeping accusations, and it must be remembered that although architects were partial to iron, our climate did not like it.

The motion having been formally put from the chair, and carried,

Mr. DRIVER briefly replied, and said he had not exhibited his drawings as specimens of what ornamental ironwork should be—whether cast or wrought—and had stated in the course of his Paper that probably many were present who had anticipated his ideas; but his observations were addressed rather to those who had not given much attention to the subject he had brought forward.

Forthcoming Contracts.

Tenders will be delivered on April 13 for additions to St. Bartholomew's Hospital. Mr. E. T'Anson, Architect. Quantities by Mr. Campbell.

Surveyors were appointed on the 7th inst. to take out quantities for the military brigade depot, Caterham.

A new house is to be immediately erected at Wimbledon for Mr. C. H. Hardman. Messrs. Francis Bros., Architects.

Tenders will be delivered on the 14th inst. for a new warehouse in Weston Street. Messrs. Newman & Billing, Architects.

Surveyors were appointed on the 7th inst. to take out quantities for the military brigade depot, Hounslow.

Tenders will be delivered on Monday, April 12, for new schools in Keeton's Road, Southwark, for the London School Board.

Tenders will be delivered on Monday, April 12, for rebuilding the Queen's Head Hotel, Tottenham Court Road.

THE ROYAL ARCHITECTURAL MUSEUM.

MR. WILLIAM BRINDLEY delivered a lecture at the Royal Architectural Museum last Saturday on

The Carving of Natural Foliage.

Though much had been written on natural foliage of late years, he said, and although many of them had been endeavouring to carve foliage naturally for some time, yet they had much to learn before arriving at the standard reached by the carvers of the Middle Ages. It was not only in the carving of the natural leaves they had so much to acquire from the old men, but in the grouping and adaptation of the various forms to their different purposes and positions.

The date of natural foliage in English Gothic came in at 1290, and went out at 1310. By this he meant foliage carved as they found it growing, pure and simple; for after the latter date they found the foliage conventionalised more or less up to the end of the Perpendicular Period, or the last days of Gothic, so that the actual duration of this most beautiful style only existed some twenty years, or about the same length of time that they had been attempting to do similar work. Nothing, he thought, could possibly show their littleness more than to compare the present twenty years' work with the twenty years' work of their predecessors; for, find it wherever they might, it was sure to be beautiful. The question, therefore, they all naturally asked was as to how it was done; for in this case it was not a gradual development, but a positive determination of the architects and carvers to throw over Early English work, and use natural foliage. Some authorities would no doubt differ from him as to the suddenness of the change, and show a transition, which no doubt there was; but it was so extremely slight that it was scarcely worth notice; for, upon careful examination or analysis, he thought they would find it simple Early English foliage, with a better notching on the edges. The best examples were Bishop Bridport's tomb, at Salisbury, and Warmington Church, near Peterborough. He felt convinced that much of this work was done by the same men that produced the natural foliage. Some people would tell them the Early English was a conventional copy of this or that plant, but up to the present time he failed to observe nature-copying in it. Both styles had their merits, neither of which they had yet been able to surpass, or even equal, with all their models for incentives. In proof of his remark that the same men who, in 1290, carved Early English also carved natural foliage, he would instance the jambs of the arch entering the Chapter House of Westminster Abbey, where they would see precisely the same figure carving, and side by side, or rather stone by stone, they would see Early English of the most perfect character, with natural foliage as beautiful and chaste as the mind could possibly conceive. When in the Chapter House he would request them not to omit to notice the rose spandrel diaper in the arcade, which was an example both of design and execution. In his opinion these old workers obtained their knowledge of natural forms in a perfect way, and this was proved by the results of the modern attempts at Early English design as compared with old work. He thought that any modern sculptor was as likely to arrive at the *par excellence* of Greek art, as seen under Phidias, as any modern ornamental carver was likely to approach in originality the Early Englishmen, as seen in work executed at Wells and Westminster. Conventional foliage, that had existed more or less since the days of the Egyptians, passing through Greek, Roman, Romanesque, Byzantine, Norman, and its transition, was now in England entirely thrown overboard and become extinct. What was most surprising was that this change should have been so sudden. It seemed to him that freemasonry, or something of that sort, must have had a remarkable influence in those days. In looking back at bygone styles of architecture, it was very interesting, and became more so as they studied the matter deeper. In matters of architecture they were mere copyists, and, like all copied works, theirs lacked the life and force of originality.

In regard to the carvings of several styles of architecture, he did not feel ashamed at copying, for life was so short, and nowadays they had to try their hands at everything in way of ornament that had gone before. What else could they do? But in the matter of natural foliage carving, he really did feel ashamed that they knew so little about it, seeing that they had every variety of plant to study from that the old carvers had, and, in addition to them, through the help of botanical science, there were numerous other examples of which they could avail themselves in museums and botanical gardens, not only in London but in most provincial towns. They were not going with the times in progress. They professed to get their living by carving ornaments, and all good ornaments partook more or less of nature; how then could they expect to get on if they did not take the trouble to study from the life in plants in the same manner as any artist did from the figure? No one desirous of studying vegetable forms had much difficulty or excuse in finding some form or other worthy of his attention, for whenever circumstances were compatible with vegetable existence there they found the plants arise. As a rule the old carvers did not indulge in a great variety of leaves; they were frequently content with about six, viz., the maple, the oak, the thorn, the ivy, the rose, and the vine. As regarded variety of leaves there was no doubt but that in Great Britain they were very fortunate, for nearly every beautiful leaf of Europe was either to be found in the gardens or growing wild in the lanes, woods, and fields. The typical plants as a rule were either of very simple form, or so large in size that it was difficult in architectural carvings to find space to introduce them. But this remark would not hold good, for the ferns, some of which were most suitable, and many of the most delicate variety, might be increased in size with advantage. Ferns carved well lent themselves to capitals with square or curved abacii admirably, and much had been very creditably done with them in modern work. The old carvers, however, did not seem to have used them much, because he supposed it was because their abacuses were chiefly circular, and not adapted for perforation. There was little doubt but that the early French carvers and the English, in early transitional work, used them very much. As cleverly as the old English carvers managed their natural foliage, the French carvers almost beat them, particularly in the carving of

capitals, for the French having a square abacus to contend with, it became more difficult to deal with than English circular. This difficulty they got over by branching up the leaves. In the south transept of Westminster Abbey, or Poets' Corner, in the middle of the arcade on the west side of this transept, there was a maple capital, level with the eye, treated with bossed leaves, which, in his opinion, was a scrap of carving of a very instructive character. The grouping was perfect, and the carving of the leaves and the stems most beautiful; in fact, this capital was as perfect a specimen of what could be done with natural carvings to suit the architecture as could possibly be found in this country. This capital was, no doubt, the work of a Frenchman, for Sir Gilbert Scott had informed them that French artists executed work at Westminster Abbey as early as 1265. In modern carvings of natural foliage they appeared to fail much in want of simplicity of arrangement. Most plants, when growing, had some marked system that was generally overlooked; for instance, the maple grows in pairs, and so they should be represented, for, botanically, they were requisite to prevent the work being taken for other plants. In conclusion, he would advise those art students who had not yet begun to study nature to do so at once. If they could not get anything better, they should begin with a sprig of watercress, and in this alone they would find sufficient to employ them some time, if they sketched, not only in a picture sense, but made sections of its stems and its leaves. Those who had more love for conventional work must study dock and fern leaves; they should also make a selection of different branches of trees in bud at the present time and study them. They would thus quickly feel their knowledge of nature's workings to be but very little, and he trusted, at the same time, that the love created for the study would be a sufficient incentive to give them impetus to continue in the work.

The proceedings terminated with the customary vote of thanks.

ROMAN LONDON.

MR. ROBERTS, Hon. Secretary of the British Archaeological Association, says that about half-a-mile from the Marble Arch is an opening in the Edgware Road—the Roman way to Verulamium—which displays, three feet below the modern granite pitching, the veritable surface of the great Roman highway. The maiden earth was covered with boulders of flint and rag-stone (some of the latter being old building materials, partly rounded and partly with plain worked surfaces) to the extent of about one foot in thickness. Above this is a layer of black pebbles of a dull surface where fractured, and in a blackened layer of earth. Whether this blackening is due entirely to modern gas saturation it is not easy to say. Nor is it safe to assert that the pebble was laid there during the time of the Romans. Mr. Roberts believes that it is of a much later date.

Imposed on the black-pebble roadway is about one foot of brick rubbish, also in dark earth, of a period probably two or three centuries since, while the recent granite cubes are superimposed on coeval concretes about 18 inches thick in all. The depth from the present surface varies from about eight feet near the Marble Arch to about two feet at Maida Hill.

Mr. Roberts suggests that it will be well for those who will shortly be employed in pulling down for public improvements part of the Harrow Road to keep a vigilant look out, for undoubtedly a station existed at the junction of the two roads (the Harrow Road was seriously diverted when the Grand Junction Canal was formed), and possibly many Roman antiquities may be discovered.

The Verulam Road commenced at a point more south than its present place at Tyburn—there was probably a "cross-road" at its junction with the Oxford Road—and that it extended to the ford at the Thames, near Vauxhall. The late Mr. Black asserted that the "Ossulston stone" would be at the cross-road, and, as if to confirm his view, a few years ago such a stone was discovered several feet beneath the road, and it now lies beside the Marble Arch within the park.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

TWO Prizes of Five Guineas each are offered by the Architectural Association of Ireland (open to any member of the profession under thirty years of age) for the best measured drawings of any building in Ireland or the United Kingdom up to the eighteenth century, and for the best design for a Town Church to accommodate 1,000 people. The President and Vice-President of the Association are to be the referees.

The measured drawings must exhibit the constructive masonry and framing; the plan to be drawn to a one-eighth inch scale, and details to one-half inch scale, with sections of the principal mouldings one-quarter full size. All drawings to be made in pen-and-ink, suitable for photo-lithography. The Association reserve the right to photo-lithograph and publish any of the designs the committee may consider possessed of sufficient merit.

All works submitted for either of the above prizes must be delivered, carriage free, at the rooms of the Association, in Dublin, addressed to the Hon. Secretaries, on or before September 30, 1875. Each document is to be under motto, and accompanied by a sealed letter, containing the name and address of competitor, and having on the outside a motto to correspond, for the purpose of identifying the successful competitor with the work sent by him.

There must also be inscribed upon the cover the number of separate drawings, and the title of the prize for which it is submitted; any neglect of those regulations may prevent the work being submitted to the judges.

The drawings of Church to consist of two plans, four elevations, two sections, and any perspective views and details competitors may consider necessary to explain their designs. The details to be drawn to a scale of 2 feet to 1 inch.

The prizes will be awarded at the general meeting in November next.

b

ILLUSTRATIONS.

THE CORPORATION PROPERTY COMPANY'S NEW BUILDINGS,
MANCHESTER.

SOME time since it was announced that the site of the Victoria Fruit Market, in Manchester, the area of which is 5,100 yards, had been purchased of the Corporation for the sum of 320,000*l*. Large as this sum may appear, it is anticipated that, at the present rate of increase in the value of land in the centre of Manchester, this plot will be in a few years worth double the price paid for it. Manchester capitalists are directing their attention to the purchase of land and buildings, and, owing to their large investments, prices are rapidly rising. Situated opposite the Exchange, and surrounded by three of the widest and most important streets in the city, this property can suffer no deterioration, for in the natural pressure that is always taking place from the outside, purchases, even at fancy prices, become more and more difficult as the commercial centre of the city is approached. As an instance, the Infirmary site, which five years ago could have been obtained for about 300,000*l*., is now being negotiated for at three quarters of a million. The present site has frontages to Victoria Street, St. Mary's Gate, and Deansgate, which will be arranged in the first instance for thirty-one shops of a class not hitherto existing in Manchester. The minimum height of the shops will be 15 feet, but as the ground falls towards Victoria Station, the greatest height will be about 22 feet. It is intended to increase the floor space in some of these shops by raising at the back part of them a second floor with a balustrading.

As will be seen from the plans the interior of the site has been planned as a central hall or promenade with other shops placed around it. There will be five entrances to this part of the structure. The bazaar, as it may be called, will be covered by a dome of glass and iron, 80 feet in diameter. There will be a length of 200 feet for promenade; balconies will run round this hall on the first, second, and third floors, decreasing slightly in width as they rise higher, and each balcony front receding 17 inches from the front of the balcony immediately beneath it. By this means great additional light will be given to the lower portion of the building, and the apparent overhanging of the upper balconies, noticeable when they range in a line, will be avoided. The provision for shops in the arcade is greater than on the exterior, but there is a likelihood of some of this accommodation being used for offices. Twenty shops will front the arcade on the ground floor. On the second floor, reached by a balcony, there may be twenty-four shops and offices fronting the arcade, and on the third floor nine shops and offices. The receding arrangement of the balconies will enable passengers below to see the inducements offered for their ascent in the shop windows on the higher floors.

On the part of the site forming the junction of Victoria Street and Deansgate there is to be an hotel on a grand scale. On the ground-floor the frontage will be about 145 feet, but this will be increased on the upper floors, so that on the fourth-floor alone there will be 112 bed rooms. The dining saloon will measure 70 feet by 35, and, as well as other parts of the hotel, may be entered from the arcade. It will be lighted from a figured glass roof, and fragrance and coolness will be obtained by fountains and flowers along the central line of the hall. A restaurant will occupy the room on the basement under the hotel dining-room, with a billiard saloon adjoining, capable of accommodating players at from twelve to twenty tables. The remainder of the basement will be utilised as wine and general stores. The basement and sub-basement are to be provided with tramways to facilitate storage.

The offices, to which the main accommodation on the three floors above the ground is devoted, may be reached from the street by staircases, or by the promenade stairs. These offices, besides being lofty, light, and airy, will be furnished with every modern convenience. Shafts, for instance, are to be provided for the examination of pipes in case of defect, and also for the delivery of the dust bins to the cellars, whence they will be taken out by the tramways to the loading station, and thence out of the building.

The whole building will be ventilated by a complete system of flues, and an extraction shaft. Even the lowest cellars will be connected with this system, and they will be lighted better than deep cellars generally are. The pavilions and Mansard roofs are to be utilised for kitchens, servants' rooms, &c.

The ground and first-floor will be constructed fireproof throughout, and fireproof doors will separate one block of buildings from another, and divide the whole building into five fireproof blocks.

Numerous applications for tenancies have already been made for the shops, &c.; and it is anticipated that the scheme will be as great a financial success as it will be an architectural improvement to the city.

The buildings are now in course of erection, and the contract for the brickwork has been let.

The designs have been prepared by Mr. William Dawes, of 100 King Street, Manchester, the architect to the Company, the work having been entrusted to him without any competition.

Key to figures on Plan:—Sub-basement Plan.

- | | |
|---|----------------------------------|
| 1. General store cellars. | 4. Loading way to hotel cellars. |
| 2. Hotel store cellars. | 5. Tramways to general cellars. |
| 3. Loading way and hoists to general cellars. | |

Basement Plan.

- | | |
|---|--|
| 1. General store cellars. | 10. Coffee and smoke room. |
| 2. Loading way and hoists to ditto. | 11. Lavatories, &c. |
| 3. Tramway to ditto. | 12. Bars to billiard saloon. |
| 4. Entrance to basement of hotel from street. | 13. Billiard saloon. |
| 5. Stairs to upper floors of hotel. | 14. Bar parlour. |
| 6. Hoist for visitors. | 15. Bar. |
| 7. Cellars and offices to hotel. | 16. Wine cellar. |
| 8. Lifts to upper offices of hotel. | 17. Loading way to hotel cellars. |
| 9. Restaurant. | 18. Lavatories, &c., to billiard saloon. |
| | 19. Back entrance to billiard saloon. |

Ground Floor Plan.

- | | |
|---|--|
| 1. Shops. | 10. Porter's office. |
| 2. Entrances to central hall. | 11. Bar. |
| 3. Central hall and promenade. | 12. Bar parlour. |
| 4. Entrance from promenade to hotel. | 13. Waiters' waiting lobby. |
| 5. Grand staircases to general offices, &c. | 14. Smoke room. |
| 6. Staircase hall in hotel. | 15. Luncheon bar. |
| 7. Grand entrance hall. | 16. Dining hall. |
| 8. Visitors' hoist. | 17. Serving rooms, hoists, servants' stairs, &c. |
| 9. Space for luggage. | 18. W.C.'s, lavatory, &c. |

First Floor Plan.

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|---------------------------|---------------------------------------|
| 1. Offices. | 8. Spare room. |
| 2. Balcony. | 9. Grand staircase hall. |
| 3. W.C.'s and lavatories. | 10. Visitors' hoist. |
| 4. Hotel sitting-rooms. | 11. Office. |
| 5. Coffee-room. | 12. W.C.'s and lavatories. |
| 6. Billiard-room. | 13. Conservatory for flowers in tubs. |
| 7. Hotel reading-room. | 14. Servants' offices. |

Second Floor Plan.

- | | |
|---------------------------|----------------------------------|
| 1. Offices. | 6. Servants' offices, lifts, &c. |
| 2. Balcony. | 7. W.C.'s and lavatory. |
| 3. W.C.'s and lavatories. | 8. Hoist for visitors. |
| 4. Hotel sitting-rooms. | 9. Brushing room, &c. |
| 5. Spare room. | 10. Spare room. |

Third Floor Plan.

- | | |
|---------------------------|---------------------------|
| 1. Offices. | 6. W.C.'s and lavatories. |
| 2. Balcony. | 7. Servants' offices. |
| 3. W.C.'s and lavatories. | 8. Hoist for visitors. |
| 4. Hotel sitting-rooms. | 9. Spare rooms. |
| 5. Bed-rooms. | |

Fourth Floor Plan.

All bed-rooms and servants' offices belonging to hotel.

THEOLOGICAL COLLEGE, AUTANANARIVO, MADAGASCAR, FOR THE
LONDON MISSIONARY SOCIETY.

THE design of which we give illustration has been made in the same style as the Fourth Memorial Church, which was erected by the same architect, Mr. E. O. ROBINS, which design was illustrated in our journal at the time.

It is faced with stone, and is in all respects a building of a monumental character.

A general elevation of the eastern or principal front is given, and a part of the western façade; also an elevation of the northern end.

There are several sections; one right through the central portion, showing the class-rooms, the staircase, and the tower in section; another cross section through the lecture-hall, looking towards the centre, showing the arrangement of the gallery steps and the door of entrance at the top, which is entered from the landing of the staircase level with the first-floor.

All these drawings are contained on one sheet, while on the other are the plans of the ground and first-floor, also a longitudinal section right through the building.

The ground-floor of the tower forms the entrance vestibule to the hall and staircase.

There is no entrance for pupils to the lecture-hall from the ground-floor. The professors' door is through the missionary's house in the left wing. The pupils' entrance to the lecture-hall is from the first-floor. The space under the gallery is utilised for cloak and lumber-rooms.

A corridor to the right leads to the class-rooms, both on the ground and first-floors, one over the other.

A waiting-hall is provided on the first-floor of tower, and the staircase rises to the second-floor of the central portion, where there are apparatus and other rooms.

The tower is ascended by step-ladder to the observatory situated at the top.

Houses for two missionaries form the wings, and each contains two sitting-rooms, nursery, store-room, and closet on the ground-floor, besides access to the verandah and a wide entrance hall and corridor.

On the first-floor a study and two bedrooms, bath-room and dressing-rooms, &c.

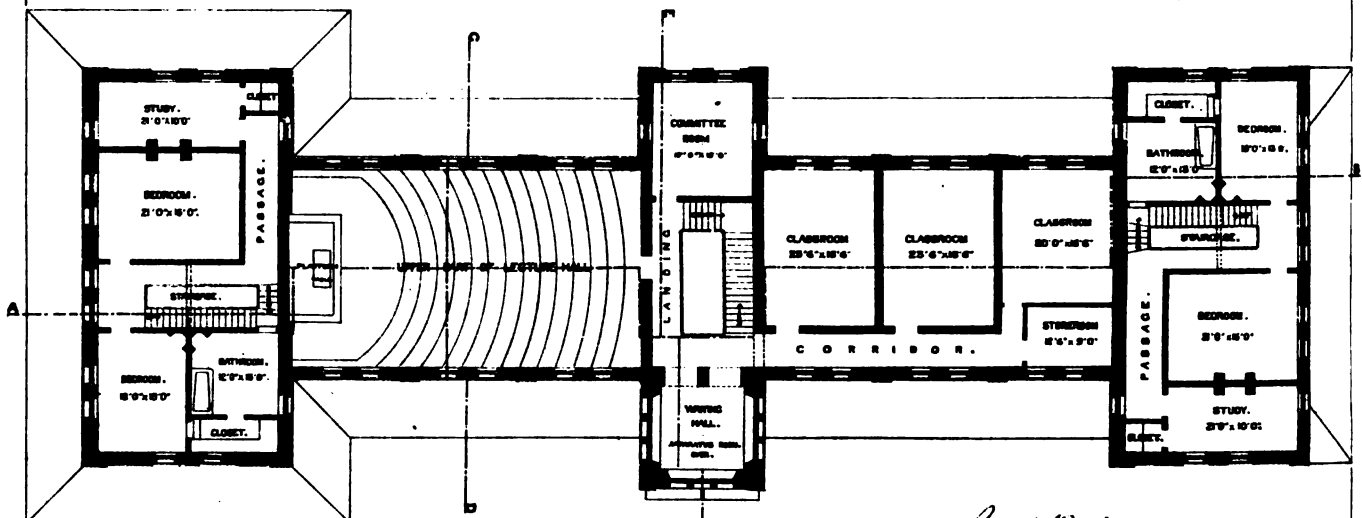
On the second-floor are four bedrooms and a dressing-room. The simplest forms are used in the mouldings, and the iron and zinc work will be sent from this country.



THEOLOGICAL COLLEGE.
ANTANANARIVO.
MADAGASCAR.

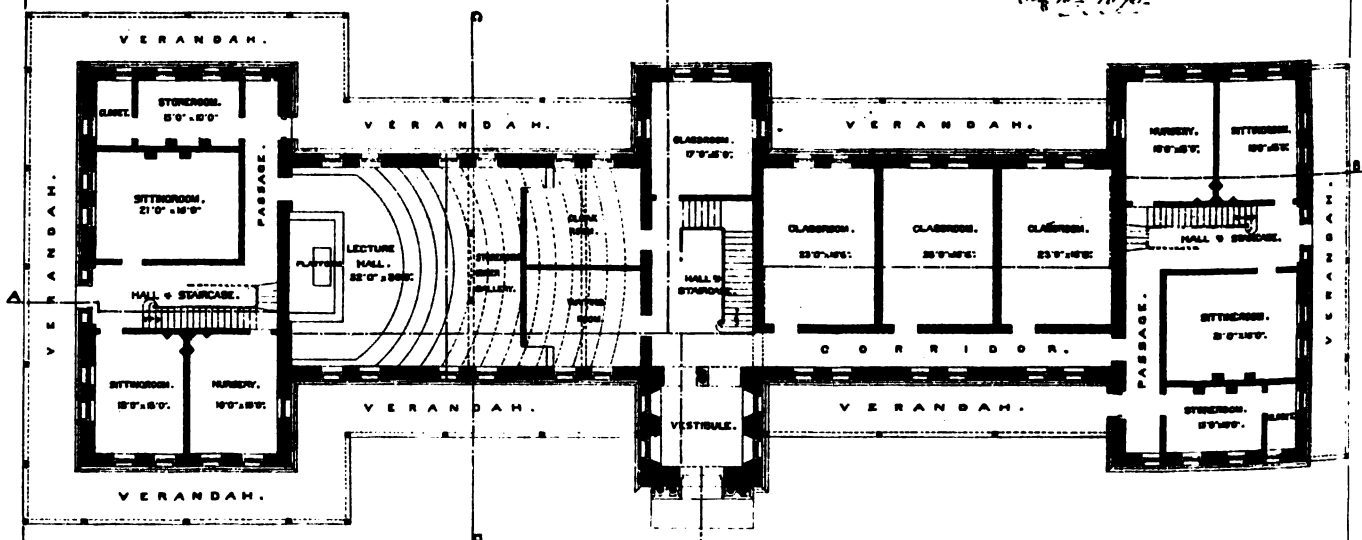


LONGITUDINAL SECTION ON LINE A.B.



PLAN OF ONE FLOOR STORY.

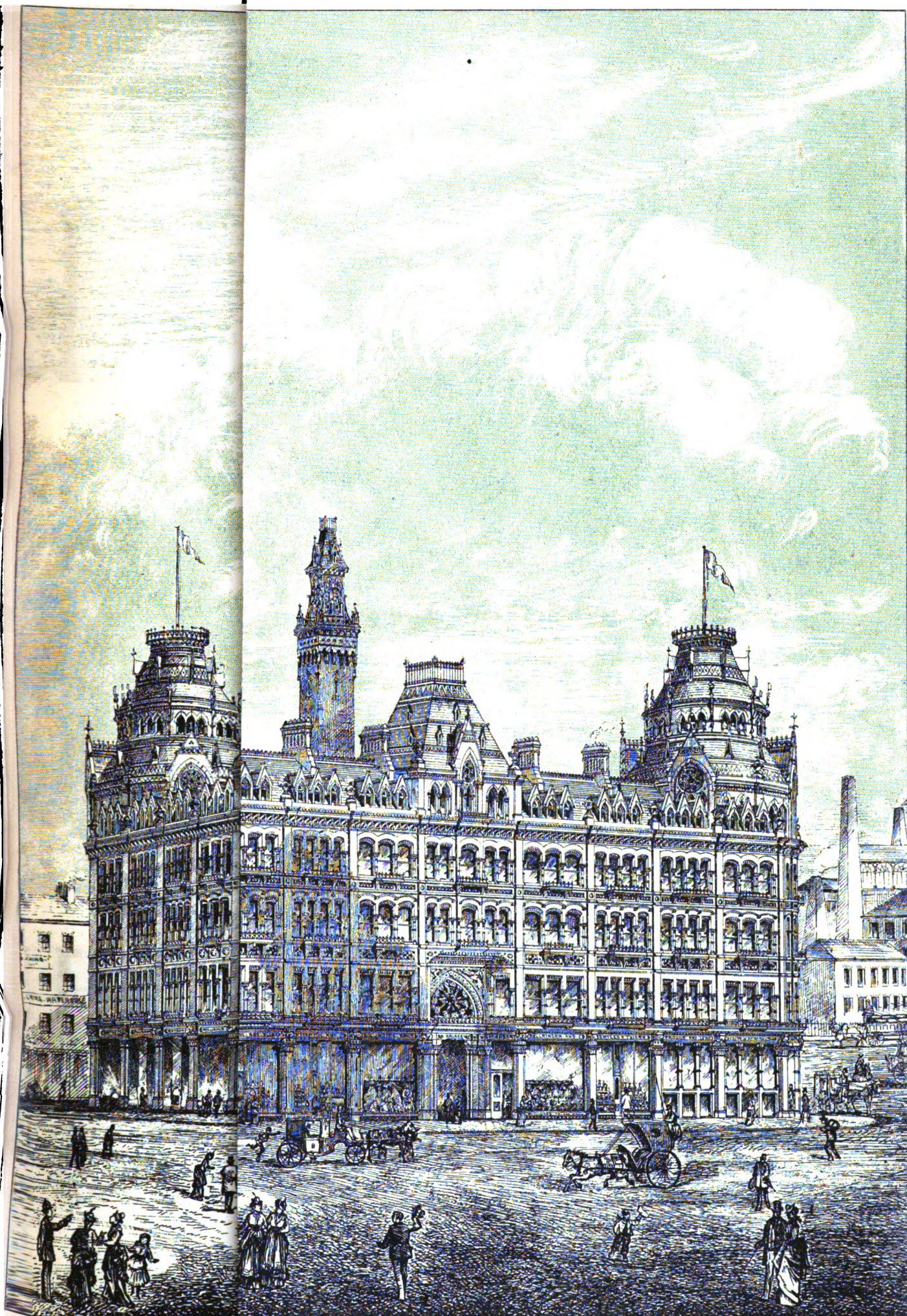
*Chas. E. Mobins, ARCHT.
11 Southampdon St. Strand
Feb 10th 1875.*



GROUND PLAN.

SCALE OF FEET.

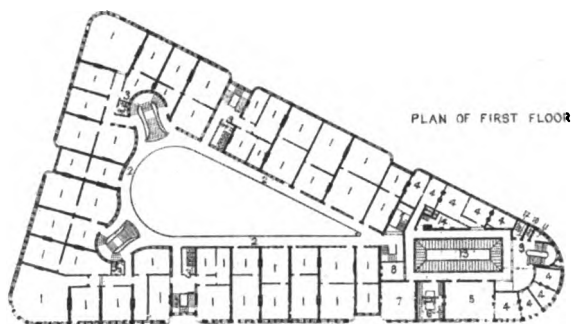
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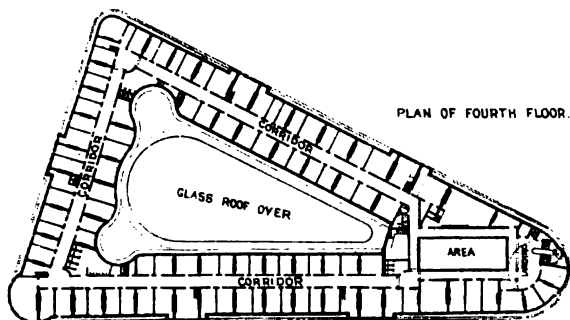
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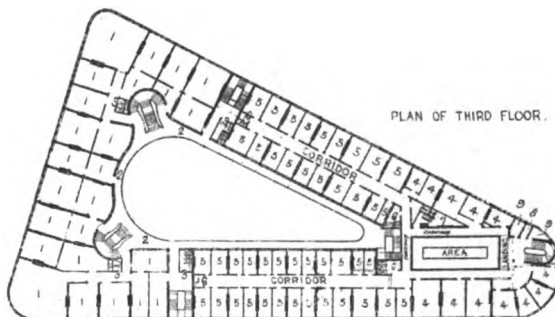




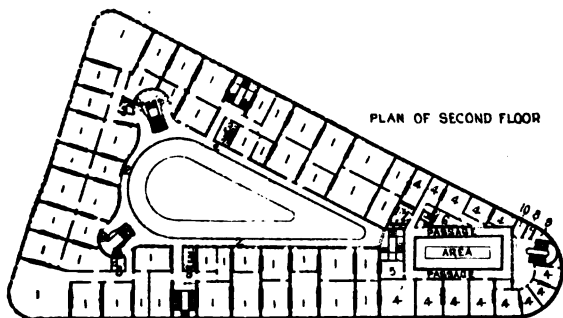
PLAN OF FIRST FLOOR



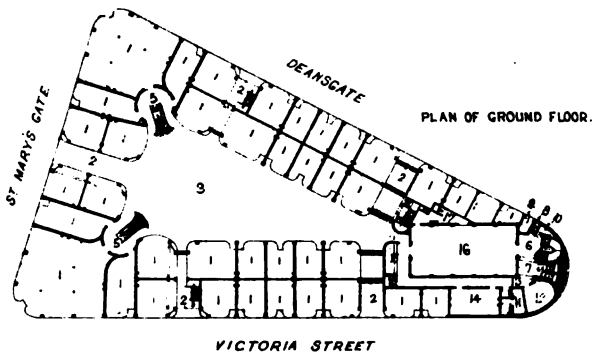
PLAN OF FOURTH FLOOR.



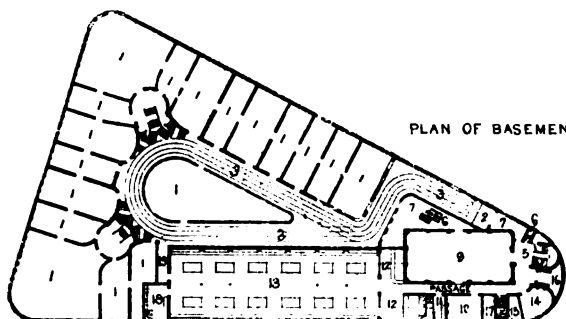
PLAN OF THIRD FLOOR.



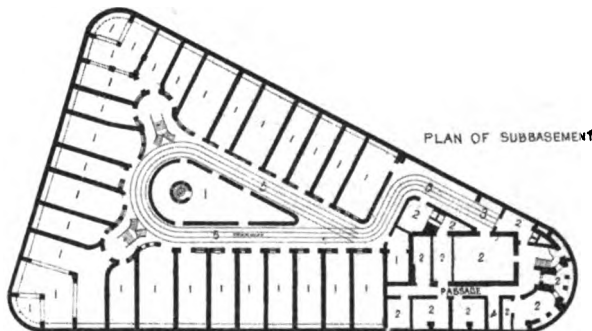
PLAN OF SECOND FLOOR



PLAN OF GROUND FLOOR.



PLAN OF BASEMENT.



PLAN OF SUBBASEMENT

THE CORPORATION PROPERTY COMPANY'S BUILDINGS, MANCHESTER.
(NOW IN COURSE OF ERECTION.)
MR WILLIAM DAWES ARCHT.

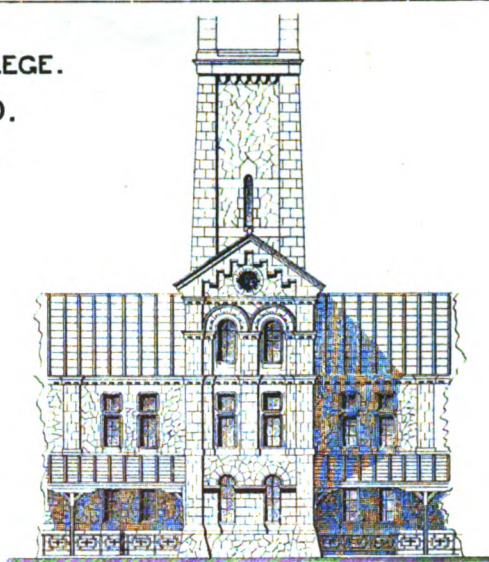
Drawn by W.W. Symonds & Co. London E.C.



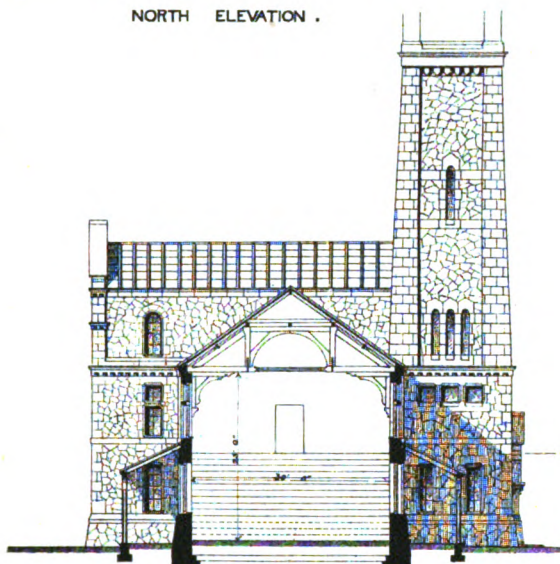
THEOLOGICAL COLLEGE.
ANTANANARIVO.
MADAGASCAR.



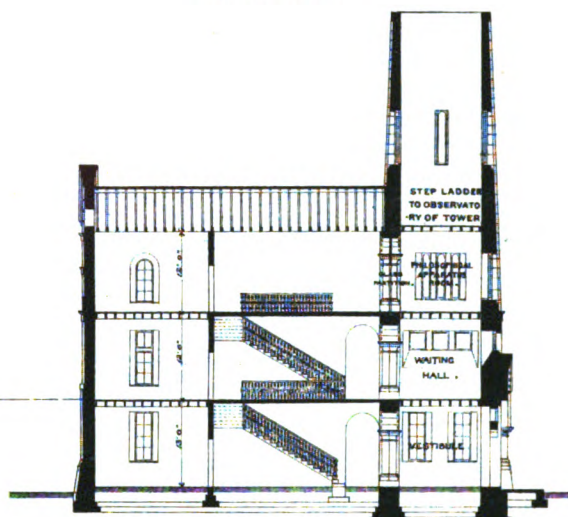
NORTH ELEVATION.



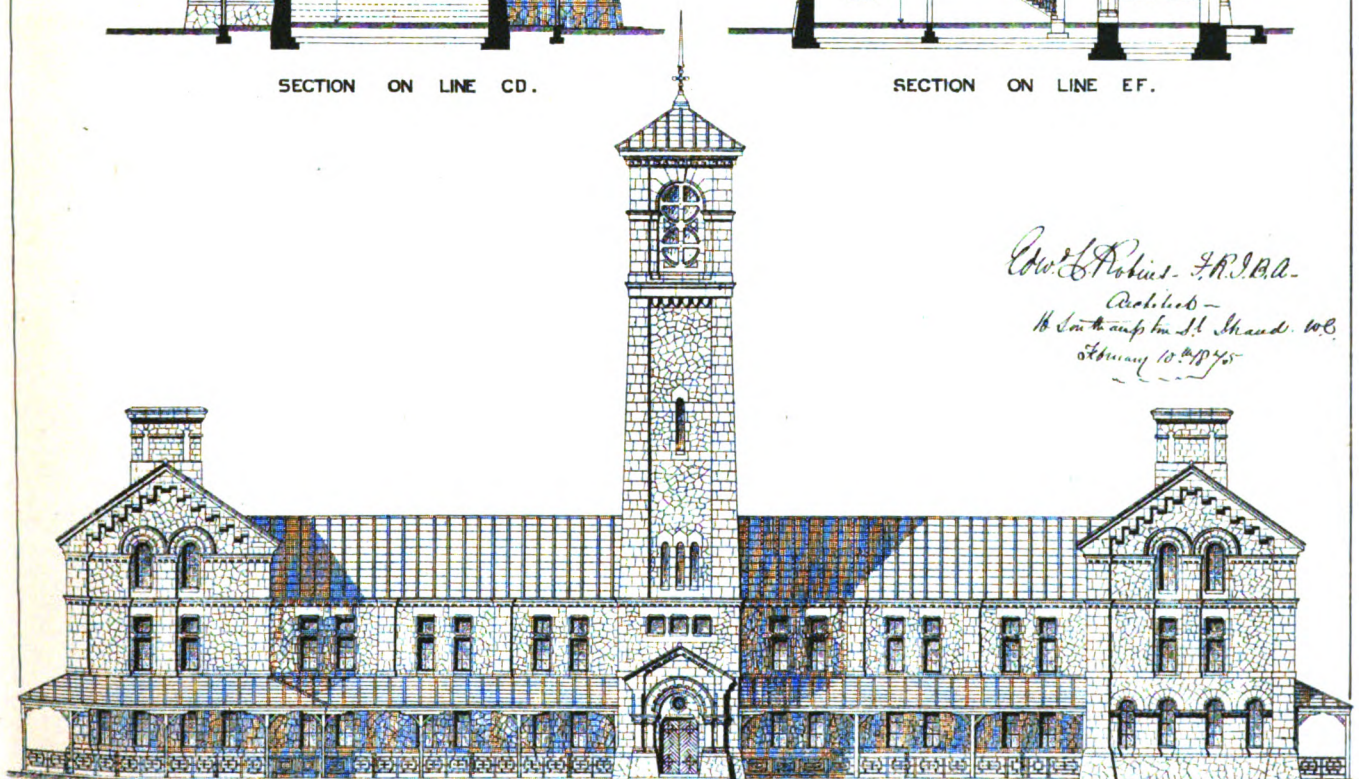
WEST ELEVATION,
CENTRAL PORTION.



SECTION ON LINE CD.



SECTION ON LINE EF.



EAST ELEVATION

SCALE OF FEET.

*Chas. L. Roberts. F.R.S.B.
Architect -
16 South Campbell St. Maund. W.C.
February 10th 1875*

Printed by W. W. Spangue & Co. London E.C.



THE ARCHITECTURAL ASSOCIATION.

At the ordinary fortnightly meeting, held on April 2, Mr. J. S. Quilter, Vice-President, in the chair, the following members were elected:—Messrs. S. G. Owen, W. G. Bagnell, H. Griffin and J. F. Molyneux.

A Paper was read by Mr. Frank E. Thicke on

The Relationship between the Architect and the Workman.

MR. THICKE said: I feel that some apology is due to this Association for the change in the subject of my Paper. It was originally announced, I believe, that I was to relate the experiences of my journey through Norway and Sweden, and that I should describe the timber architecture of those countries. But as it is my intention, if possible, to visit Scandinavia again, this time in the summer, instead of the winter, as before, I hope during the next session, if it is still the wish of the Council that I should do so, to be able to do greater justice to the subject, as I should be enabled to get more into the heart of the country and study the rural as well as the suburban architecture. This, therefore, is my excuse for appearing here this evening before you in a different character. By the change of my subject to that of the relationship between architect and workman, I feel that I have brought upon myself a task of some difficulty, and am fully cognisant of the responsibility which I am incurring, and I must claim your indulgence in not handling it in so satisfactory a manner as I could have wished. I must apologise, moreover, for the crudeness of the notions and ideas which I am about to enunciate.

I do not profess in any way to be about to give you a literary lecture or to indulge in what is usually termed American tall-talk; neither do I think you will discover any poetical quotations in what I am going to read to you.

It is my belief that the profession has recently had a surfeit of high-flown, grandiloquent language, and as one of the architectural papers lately observed, "One begins to shudder at the masses of magnificent verbiage which exist in print and in manuscript on the subject of the noblest of the arts, the music of the eye, the noble master minds of the Middle Ages, and all other such war-paint of the literary architect." Therefore, I do not consider I am about to give a lecture, or even read a lengthy Paper; but I desire to say a few words in a plain, frank and straightforward way, in order to raise a discussion between members of this Association who for the most part comprise the junior members of the profession, and a few earnest and thoughtful representative working men, whom it has been, and is, my privilege and delight to associate and work with in very many movements which have for their objects the amelioration of the condition, both physically and mentally, of their own order. A discussion of this kind carried on in an amicable spirit between us here, as architects in our own home as it were, and the few *bond fide* sensible workmen whom I have been allowed to invite, and who have readily accepted my invitation, cannot but be of inestimable value to both parties.

Whatever the capacity of an architect who has a literary taste may be, he ought not to fill a position as a mere book-worm. It does not of necessity follow because he has literary talent that he possesses practical knowledge. It cannot be denied that it is of the highest importance that architects as well as working men should have practical knowledge, and it is with that object I have sought to be the humble instrument whereby they may be brought into closer communication one with the other, which will be attended with, I trust, a result mutually advantageous. It is generally thought, and on consideration one cannot be surprised that it is so, that architects have a more thorough knowledge of labouring men than most other men have, but I am sorry to say that it is a fallacious idea. As a rule they are lamentably ignorant of those who are carrying out their ideas and working under them—they utterly fail to hold that communication with the workman which would enable them to obtain a better insight into his character, and learn how most effectually to assist him. I apprehend the objects of all men—much more the architect—ought to be the social improvement of their neighbours, so as to lead to their greater happiness. There cannot possibly be any excuse in these days of workmen's clubs and mechanics' institutions, &c., for the architect to say, "Where can I meet the working man to have this social intercourse?" The establishment of a new workman's club is of very frequent occurrence, and every town with any pretension at all to that title, can boast of one at least, while the metropolis and its suburbs are literally swarming with them. Not only is intellectual and scientific knowledge imparted at these institutions, but I am pleased to say that technical education is receiving a fair share of attention. A technical education committee has been formed at the Artisans' Institute in St. Martin's Lane, which boasts among its leaders such men as Lord Lyttelton, Samuel Morley, and Hodson Pratt; and the work they have been able to accomplish in the way of practically demonstrating in the workshop the utility of practical manipulation has been pre-eminently satisfactory.

I, along with others who have had far more opportunities of judging than I have, feel that it is an extremely difficult task to draw the line between praising the workman and encouraging him to be egotistical and impertinent. There is often a great deal of injudicious, ill-advised patronage on the part of well-meaning friends, which tends to make artisans and labourers too frequently to consider themselves artistic heroes; but on the other hand I fancy that architects, as a rule, are too apt to act the martinet and spurn the advice and assistance of the practical workman. Mr. Ferguson, whom all will admit is a great authority, and whose judgment, advice, and opinion, should always be received with the consideration they merit, said, only the other day, that "any step towards employing any person of a lower educational or social status than the profession of architects as now constituted, would be a step in the wrong direction, and the idea of employing workmen in the sense in which that term is generally understood, is so to degrade the Art by pandering to ignorance and vulgarity as to destroy it for ever, and to blot out its name from the list of the Fine or Refined Arts of mankind."

I cannot help thinking that remarks such as these cannot do otherwise

than an immensity of harm. More than once has my attention been drawn to the paragraph which I have quoted by honest, straightforward, and intelligent working men, who in angry tones have protested that it is a gross libel upon their order. I candidly agree in admitting that it is so. Had the remarks been made forty years ago, I could understand the allusion to the ignorance and vulgarity of the working classes, but in the year of Grace, 1875, I think all must admit that ignorant and vulgar workmen are more the exception than the rule. Education is rapidly converting the labourer who formerly was a boor and a lout into something more than a mere automaton. He is being taught that he has a mind, and the influence this is having upon us as a nation is perhaps imperceptible at present, but by-and-by must be immense. And yet slowly, but most surely, in many branches of our industry, we are falling behind our ancient renown simply because there is an unhappy divorce between science and practical manipulation; and nowhere is this and the want of theoretical application of art to industry more apparent than in those industries which relate to building construction, and the attempts which have been made to remedy this defect—felt by all but admitted by few—are of the most unsatisfactory character. Here, where we pride ourselves upon the scope we give to individual liberty and our detestation of bureaucraticism and official espionage, this separation is accompanied by most unfortunate results, and it is not surprising that the application of the very old social rule that "Every man did that which was right in his own eyes" meets with the same result now as formerly, viz., a Babel of discordant erections, such as more often than not characterise our English productions, both in domestic and street architecture.

What is wanted is to bring about that harmony of action which undoubtedly existed when those glorious creations, the ecclesiastical structures of the Middle Ages, sprang into existence. What I would propose is the collecting together under the auspices of this Association, in the form of a conference, all branches of those engaged in the building trade. At this conference I would suggest the formation of a guild of building constructors—the objects being to advance in all possible ways the interests of the trade. This might be done by systematic lectures delivered at proper times and as far as possible in connection with work there and then in course of construction, and by prizes to be offered for the best essays upon the several branches of work. Suggestions should be solicited from all engaged in building work, or from others, and sent in to the Committee of the Guild. Any solid improvement introduced or suggested by an operative or other person should be reported upon and, if approved, adopted, and the party assisted in receiving protection if the improvement were of importance sufficient to be worth a patent. Periodical exhibitions should be held, with a museum of architecture and building appliances, to be open at such hours as would be convenient to the humbler members of the craft. In this museum the exhibition of models should be encouraged, and drawings of all sorts of erections should be hung in conspicuous places, with the estimates of cost, and means should be taken to show the general public how cheap houses are run up, and how they are swindled by the crafty, speculative builder. The workman should also be encouraged while actively engaged in his calling to register his practical observations obtained in the course of his daily industry. By this means a fund of valuable information might be obtained. By such a guild as I have attempted feebly to describe, certificates of competency might be issued, and it would indeed be a proud day, when the workman and the architect, the employer and the employed, should strive to raise the whole status of the trade—the soundest basis upon which to found a true and just scale of advance in wages.

There is another suggestion I should like to make, and it is one I intend to adopt myself. When a building is about to be erected, say a mansion, every person employed, from the humblest labourer, should, from the very commencement of the works, be informed of what is about to be done. The whole of the working drawings should be placed in a conspicuous position so that they could always be accessible to the meanest workman, and all of them, together with the specification, should be explained in a sort of brief lecture—by the architect more often, but in his absence by the clerk of works or foreman. I would have the system of drainage explained, ventilation, hot-water apparatus, &c., described. I would then invite suggestions and comparisons of suggestions from every one employed, from the tiler to the plumber. These would of course be submitted in the first place to the clerk of works or foreman and then to the architect, and if found to be feasible and practicable and thought to be a decided improvement would be readily adopted. Each man would thus have a distinct interest in his work, and would not feel that he was a mere machine like the tool he holds in his hand.

A well-known representative workman said to me the other day, "You know, Mr. Thicke, the architect has ceased to be what he originally was, and what he ought to be, and which his name implies. He has become, rather, a peripatetic, fashionable person, conspicuous by eye glasses and rings, and a professional individual of consequence; and in consequence a way is made clear for any adventurous individual, not perhaps conversant with any particular branch of the building trade, who undertakes the erection of our suburban residences and houses, and countless abortions spring up right and left—harmonious in no one respect, and agreeing only in their supreme ugliness and outrage upon convenience and taste; and more often than not the primary requisites of a good, habitable house, viz., light and ventilation, are utterly and wholly neglected. What supervision there is appears to me (he went on to say) to be vexatious, pedantic, obstructive, and offensive. There is often an entirely unnecessary interference as regards a pier, perhaps, in the wrong place, a wall of insufficient thickness, or a mistaken line of frontage; whilst sanitary arrangements and the quality of the material used are entirely overlooked. In fact the ignorant and selfish speculator has pretty much his own way, and the result is only too well known." When observations like these are made by workmen, who themselves desire a better state of things, it seems to me that we are not acting unwisely in taking stock of the position and seeing whether all the faults which undoubtedly exist in our system of domestic

architecture lie entirely with the men who come forward as builders or the man whom he may employ.

What a contrast (continued Mr. Thicke) does this vast city present to the agreement and harmony of design as depicted in the best of the continental cities. A sight of them produces an agreeable satisfaction and a desire at times for a slight taste of that autocratic rule and power where the results seem so pre-eminently satisfactory; not that we should wish to see liberty of action removed, but something like intelligent order and harmony in accord with and working hand in hand with convenience and necessity. There is no more patent illustration of the wild vagaries of our unbridled freedom of action than in the mode in which our Freehold Land Societies cover their ground. They cover acres and acres with gaudy and fantastic outrages upon taste and convenience, and without any regard to economy. If any person were to commence a search after the elements of thrift or profitable investment it is more than probable that the last place he would find it would be in connection with one of these building societies, from the simple fact that every element of advantage is neglected and left out in their structures. Side by side of a villa built in the Swiss style is a little mean unpretending cottage with small simpering windows and a tall consumptive looking door, one costing perhaps five or six times as much as the other: this ill-assorted arrangement of houses exists on nearly every building estate in and around the metropolitan area. That which characterises the conglomeration of bricks and mortar called villas also characterises much of our street architecture, viz., the encouragement of every kind of neglect in a sanitary, artistic, economic, and utilitarian point of view.

Mr. Fergusson has most pertinently remarked upon the neglect in employing professional assistance, and has pointed out what has occurred in a very conspicuous manner in the building of the *Times* office in Queen Victoria Street. An erudite amateur and a master workman have produced a building against which no reasonable ground of complaint can be lodged, either as to design or execution, certainly not in the latter. There must have been some very cogent reason for this avoidance of the employment of a trained and educated mind in the erection of this structure, and I for one should like to know more about it.

If the profession were to commence to turn its mind to the practical work of constructing better homes for the million, a far greater appreciation of the value of the profession of the architect would follow. When the workman, the public, and some reforming school of architects can meet for a common object, viz., that of housing the labourer and artisan in a sensible, practical, and economic manner, there will arise an *entente cordiale* between the profession and the masses which will ensure honour to whom honour is due, and a general advantage will result to the community at large.

In continuing, Mr. Thicke asked: What more worthy object could occupy the minds of thoughtful men, whose special business it is to house and home the people, than that of showing how to solve the problem of providing for the overgrowth of our large towns and cities, thereby saving that annual destruction of valuable life which is the result of causes readily preventible. What a ghastly parody upon enlightening the public with information in connection with architectural and building news was contained in a leading professional paper a week or two since. On one page the homes of some hundreds of working men in Stafford were described as being in a most miserable plight—ash-pits were overflowing, water pipes and cesspools were so close together that contamination was certain, and fevers and diseases of every kind were prevalent in almost every house. On another page there was one elaborate account of some recently erected stables, where every novelty and appliance that human ingenuity could suggest in the way of comfort and health for the horses had been introduced. The sanitary arrangements were said to be perfect, and large sums of money had been spent upon the ornamentation, consisting of polished teak, marble, and mahogany! Surely the designer and proprietor must have imagined that the life of the animal was of more value and importance than the human being! Until the science of architecture comes back to primitive conditions, much of the honour due to one of the noblest professions will be wanting. When men first sought shelter there was an undoubted respect paid to him who combined comfort, durability, and economy in those habitations which must have first supplanted the nomad's tent, and as civilisation progressed, the conveniences of homes became more diversified and elaborated. The temple was but a grander home where the worship of the August Tenant was symbolised in the house erected to His worship. In the more ornate productions of the Mediæval ages, where the glories of some forest avenue seem petrified into stone, we have the very highest flight of devotion, as marked in sacred erections immediately preceding a period when domestic architecture seems to have reached a point of descent, in which the hound and horse are better lodged and cared for than the human being. And well indeed may Sir Richard Wallace's stables be cited as a fierce satire upon the reports made of the homes of the people of Liverpool, Birmingham, and Stafford. If incompetence ever sat enthroned and legislated for housing the industrious poor it must have been during that period when the railways monopolised travelling, making no provision for the workman to be carried to and fro at moderate fares to the suburban districts. After dislodging them by hundreds and thousands and causing them to crowd into courts, is it to be wondered at that the death rate runs so high, or that health is the exception rather than the rule? The 30,000 poor of Liverpool who live in cellars without light and ventilation are but a sample of tens of thousands of others in other large towns in this country.

What may not be done by combination and by the exercise of a little common sense on the part of workmen assisted by those whose profession it is to design and to build something besides petrified forests in stone like our cathedrals or carved mountain ranges like our palaces? Undoubtedly there is more fame to be obtained in the execution of such work than in the erection of miles of humble homes, however comfortable and commodious; yet I venture to think almost as great a fame and reward may be gained by designing and erecting model villages and habitations for our poorer fellows as in the more pretentious and showy structures.

Mr. Thicke concluded thus: It may be said of our profession as of every other, There is beauty when there is utility, and there can be no doubt we are fast driving on to that time when the men we shall "delight and honour"—the real, true, grand majesty of the people, will not be the men whose mark upon history's page has been traced like a burning meteor in the sky marked by a track of fire and blood, of war, revenge, and debt; but by the more prosaic work of fashioning healthy homes for happy people. The architect who helps to take men from crowded courts where no sun-ray penetrates, from pestilential air which kills as surely as the cowardly stiletto, is a benefactor of his kind. Let us architects whilst practising in our profession never forget there is a true greatness in humility. To assist the handicraftsman in the building trade to be a wiser and more efficient workman is a noble form of humility. Let us remember that the Great Architect of the world who, while planning the eternal hills, thought it not beneath His dignity, Almighty though He be, to teach the sparrow how to build her humble nest, or the ant the rules by which she carries on her subterranean architecture.

The CHAIRMAN said that Mr. Thicke had brought forward a very bold project, and doubtless considerable difference of opinion would be expressed in the course of the discussion. No one would dispute the great disadvantages arising from the want of harmony between the building artisan and the architect, but the difficulty in carrying out the project for closer union and communion was to find a common platform on which to meet and adjust their differences; for the architect, in carrying out the work entrusted to him, had to deal not with the working man, but with the working man's master. Several working men were present, and he invited them to state their views upon the question.

Mr. RAMSKILL said that he was not particularly conversant with architectural matters, but he thought it was well to remind the meeting that the architect, as his name imported, ought to be the leader of the builder—ought to instruct him how to do his work, and set him right when he went wrong. But the practice now prevailed of erecting buildings on sites to which they were not adapted—the drawings might be very pretty, but could not properly be carried out by the builder. This gave rise to gingerbread constructions, which reflected credit on neither the architect nor the builder.

The CHAIRMAN, interposing, reminded the speaker that he was wandering from the subject before the meeting—the relationship between the architect and the workman.

Mr. RAMSKILL, resuming, said his object was to prove that a proper relationship did not exist. An architect ought personally to direct the workman, and endeavour to be useful as well as ornamental.

The CHAIRMAN ruled that the speaker was out of order.

Mr. STANNUS, in continuing the discussion, said that the difficulty would be to carry into practice the suggestions that had been made. It had been said that the architect did not hold communion with the workman, and, as a rule, he feared there was too much truth in the allegation. The architect would go over the works escorted by the clerk of works or the foreman, and make a few observations, but said too little to the men. If he would occasionally stop and talk to the men themselves—those, for instance, who had to do the carving or put the iron in its place—he, Mr. Stannus, believed that the men would be encouraged to take a part in their work; for the architect should endeavour to imbue them with some of the spirit by which he was animated. According to his own experience, the establishment of working men's clubs, as affording opportunities for intercourse between the architect and the workman, was calculated to benefit the former as much as the latter. Of guilds he had no experience, and although such institutions might have been adapted to the Middle Ages, he doubted whether they would answer so well in the present day. Essays and lectures had also been recommended by Mr. Thicke in connection with the guilds, but the result would probably be the accumulation of a mass of useless verbiage. Of the representative workman, Mr. Stannus confessed that he entertained some dread, if by such a character that class of individual was intended who had ceased to be a workman, and set up as a representative—spending his time in spouting at public meetings. The test of a true working man was in ascertaining whether he really worked at his trade; he preferred dealing with those whose heart was in their work, not with such as went about complaining of trade grievances. Upon the question of sanitary arrangements, and the allusion made to Sir William Wallace's stables, he was sure that Sir William was an excellent man, and did all he could to make his workmen comfortable. Was it, after all, necessary that a man should be housed more comfortably than a horse? A horse was a delicate animal, requiring warmth and comfort, and when tied up in a stable could not move about like a man. Doubtless, if architects could do away with crowded courts and wretched dwellings, they would be entitled to the gratitude of the public; but for the accomplishment of so desirable a work it must be remembered that the interposition of the capitalist was necessary. He moved a vote of thanks to Mr. Thicke, who had exhibited some moral courage in breaking up what was rather untrodden ground.

Mr. CONNOLLY said he feared that he came under the denomination of one who was not now a working man, though he became a stonemason thirty years ago, and had chiselled stone for the space of twenty-four years; but if chiselling men was found to be a more profitable pursuit than that of chiselling stone, who could blame the working man for so laudable an exercise of his talents? And yet he claimed still to be a working man, and to the longest day of his life would be "Tom Connolly, the stonemason." He only wished that they had to make as many speeches as a working man's delegate had, and if they were paid on the same ratio they would not find it a very paying game. The architect was not the man he was in bygone days, neither was the workman. When he was a boy it was the custom even in Ireland always to adapt the scholastic education to the pursuit for which the boy was designed; thus, if intended for a joiner, he would be prepared by a proper course of training. The architects of those days were also good, plain sort of men, possessing

strong common sense, who were not too proud to talk to workmen—as men of genius, who wished their ideas to be properly carried out, never were. He had in the course of his life worked under some of the most eminent architects, engineers and contractors, and they were never too proud to talk to the men, but knew them all perfectly, and endeavoured to inspire them with a love for their work. Anything that could be done towards bringing about a good feeling between the heads of the profession and the lower strata would, he was convinced, be a movement in the right direction; for the architect frequently lost much valuable information through the want of what might be called a little condescension. Further, the workman had been brutalised by the divorce; and Mr. Connolly said that he had worked in company with a hundred masons, not one of whom could make a sketch of some bit of special work, nor even understand a sketch. He asserted that such a state of things was detrimental in every point of view, and it was desirable that a remedy should be provided for the unnatural and inharmonious relationship at present existing between the architect and the workman.

Mr. ROBERTSON thought it was necessary to take into consideration the altered conditions under which buildings were now erected, and the conditions under which they were erected in the Middle Ages. The contractor was responsible to the architect for the due performance of the work, and the workman was the servant of the contractor, not of the architect. If anything went wrong, the architect would, in the interest of his client, naturally turn to the contractor, and it would be useless for him to appeal to the workmen. At the same time, he (Mr. Robertson) considered that there was room for a much larger interchange of thought between the architect and workman, and that such an interchange would be of mutual benefit. Still, he did not think that the architect would learn constructive science from the workman, certainly not sanitary science, for that had never been developed by workmen. The sanitary defects referred to by Mr. Thicke were not the fault of the architect, and even if he were responsible, the defects were not attributable to the want of communion between the architect and the workman. With regard to the guild that had been spoken of, it might be a very fine and desirable thing, but the Architectural Association was an inadequate basis upon which to build such a tremendous superstructure. The Association was intended for the advancement of architecture, and was not devoted to workmen; and if architects were to take counsel with the workmen after the signing of a contract, the consequence would probably be the accumulation of extras.

Mr. J. DOUGLASS MATHEWS said it seemed to be assumed that workmen and architects were sworn enemies in practice, if not in theory, but this was a false assumption. He did not admit that any such feeling existed, certainly not on the part of the architects. It had been suggested that it was the duty of the architect to instruct the workman, but such a proposition he denied *in toto*. The workman was supposed to serve his apprenticeship to a particular trade, and to be able to do his work in a competent manner: while the architect had to see that the work was carried out properly, efficiently, conscientiously, and artistically. He did not, however, mean to assert that the architect should ignore the workman, or take no notice of him, nor did he believe that any such feeling prevailed. Unhappily a democratic feeling existed on the part of the workman towards those who happened to be placed in rather a better position, but the workman ought to understand that he, and also the architect, had particular duties to perform, and if both did their part faithfully and conscientiously the result would be a satisfactory building. Architects knew from painful experience that they were continually worried by the carelessness and incompetency of the workmen; the prevailing idea on the part of workmen was that they had to do so many hours' work, and they had no care beyond that, except to make the job last as long as possible for the sake of themselves and their neighbours. Such a feeling was very wrong, and until it was corrected a proper feeling would not exist between the architect and the workman. In years gone by it was understood that the bricklayer knew all about bonding, but now nothing gave the architect more trouble than the bonding of the brickwork. Formerly, also, a carpenter understood such a matter as setting out a staircase, but a good setter-out was now almost invaluable. The workman's education was deficient, and under the present régime Mr. Mathews did not know how the architect could consult anybody about the work except the master-builder. No class of men were better paid than the skilled artisan, and he was much better off than the mercantile clerk who had to keep up an appearance; and considering the wages that were paid to artisans, he did not see why the architect should be called upon to provide dwellings for them, except, perhaps, where they were turned out by the railways—the well-paid artisan ought to be able to take care of himself. A few years ago the working man was taken by the hand, but greater discontent, he believed, had only been the result. The remedy for any grievance would be found in their endeavouring to do their duty in that station of life to which it had pleased God to call them; and he believed that the majority of architects were disposed to work harmoniously and happily with all with whom they came into contact.

The Rev. H. SOLLY said he could not be persuaded that any evil had resulted from taking working men by the hand; the consequences would be unfortunate if they were to admit the uselessness of endeavouring to do good and to carry out Christian principles, although it was true that there might have been some nullifying agencies at work. He had been greatly interested in the efforts made on behalf of working men, although he admitted there was a deal of suspiciousness to contend with; and it was clearly to the interest of the architect and builder to promote the intelligence and sobriety of the working classes. He had great faith in Mr. Thicke's project as tending to promote greater intercommunion, and the artisan would then be more likely to interest himself in the work, and to endeavour to carry out the designs of the architect. The notion of imbuing all the persons engaged in carrying out a plan with an idea of it in its broad outline was very good; if the object were right and the spirit good he thought that practical difficulties would be overcome. If all—the architect, builder, and workman—were bound together by a feeling of *esprit de corps*, or to use a better, old-fashioned word, of "brotherhood,"

the true aim of the guilds would be realised. It was continually said that the apprenticeship system had broken down, and that young men did not get the same instruction as formerly in their trades; the result was lamentable, but how was it to be got over? If their knowledge were imperfect, the need ought to be supplied, and classes for the furtherance of this object were being held, at which Mr. Thicke, and Mr. Williams, an intelligent working man, assisted.

Mr. E. HALL also agreed in the importance of promoting more intimate relations between architects and workmen. The architect would then benefit by the practical experience of the workmen in regard to the durability of materials and also as to the merits of any new invention. The workman also would benefit by communion with the architect, and if friendly terms were established he believed the complaints respecting the absence of good bond in brickwork would cease. At the same time he did not think that the advantages of a closer relationship between the architect and the workman were satisfactorily developed at the Institute in St. Martin's Lane with which Mr. Solly was connected. Very great difficulty was experienced in getting from workmen their ideas; if a question were asked they immediately assumed that the architect was utterly ignorant about every part of his business, and such a feeling discouraged the intercourse which might otherwise take place. The system upon which modern practice was conducted must be taken into consideration; otherwise they would not arrive at a satisfactory solution of the question.

Mr. SAVAGE confessed his surprise at some of the misconceptions which had grown out of the Paper. Mr. Thicke, he believed, had intended to convey that the architect ought to be thoroughly conversant with all the details of the work, although not a manipulator. If closer communion existed between the architect and the workman, the former would benefit as well as the latter, and would probably obtain a large increase of work in connection with the numerous building societies. The object of building speculators was to keep architects out of the field, and to deceive the public, but this would to a great extent be defeated if a better feeling existed between the architect and the workman.

Mr. STANNUS: How are we to come forward to benefit these building societies? We should be very glad to come forward.

Mr. SAVAGE explained that if it were more widely known how the public were gulled through the medium of speculative builders, the architect would ultimately reap the benefit.

The motion having been put to the meeting and carried, Mr. Thicke returned thanks, and said that although he had approached the subject with some trepidation, he hoped some result would follow. Something had been said about the representative working man not attending to his business, but if they were to see the manner in which Mr. Robert Williams, after a hard day's work, conducted a class of construction at the Artisans' Institute, they would realise his (Mr. Thicke's) ideal of a representative working man. Mr. Mathews quite misunderstood him in supposing he intended to suggest that working men and architects were enemies. He did not mean that, but the ultra working man had an objection to architects who did not like to soil their clothes.

It was announced that at the next meeting, on April 16, the discussion on "Queen Anne," and its relation to the Gothic revival, would be resumed, an introductory Paper being promised by Mr. Stannus.

THE SOCIETY OF ENGINEERS.

At a meeting of the Society of Engineers held on Monday evening in the Society's Hall, Westminster Chambers, Victoria Street, the President, Mr. J. H. Adams, in the chair, a Paper by Mr. W. G. Ferrar, on "Practical Construction in the Colonies," was read. The author, in the first place, compared the construction and management of English and Colonial railways—the former of which he stated were far above the latter in both respects, the work in the Colonies—with the exception of ironwork—being much below the English standard. That arose from the first cost abroad being kept as low as possible. The author then went on to point out a variety of circumstances which arise in railway construction in the Colonies and semi-civilised countries, many of which have to be met promptly and with such means as are locally available. Referring to the labour question, he strongly advocated a conciliatory policy with workmen, and that attention should be given to any grievance they might have, the cause inquired into, and the difference adjusted, which could easily be done by the light of local conditions rather than that of home practice. The transport of materials abroad was an important consideration materially affecting and often determining the question of profit or loss on a contract. Properly managed, the author stated bullock cartage to be as good and as cheap as any other known method. He had tried a steam traction engine, but abandoned it for animal transport, and put the engine to work for stationary purposes. The author then dwelt at length upon the details of practical railway construction as carried out abroad, giving his experiences in various departments of work, including the making of cuttings and embankments, masonry and timber work, ballasting, drainage and plate laying, bridge construction, station buildings, &c. He gave examples which had occurred in his practice, and some with which he had met in that of other engineers in Australia, America, and other parts, and concluded by giving a summary of the chief points requiring special attention in the construction of railways in the Colonies.

The Expenditure on Bristol Cathedral during the past eight years has been £1,200. Mr. Street has reported that the works to be completed before the nave can be used are the western window and gable, the interior of the western towers, the floors, doors, and the fittings, carvings, and sculpture. The Restoration Committee believe that if 3,000*l.* were at once placed at their disposal the nave might be connected with the remainder of the Cathedral and made available for Divine service before the next anniversary.

PEMBROKE COLLEGE, CAMBRIDGE.

THE Rev. C. Q. Madd, one of the Senior Fellows of Pembroke College, has continued the controversy we noted last week on the new works of the College. He says:—

The question presented to the Governing Body was eminently of a practical nature. College buildings must be adapted to modern requirements, and cannot be left in picturesque decay to gratify the curiosity of the stranger. They must be such as afford decent and wholesome dwelling-rooms, and meet the requirements of modern educational activity. No doubt the buildings at Pembroke College are interesting in an historical point of view, and it was not without a pang that the Governing Body gave the order for their destruction. But even here the interest does not lie, as some would seem to think, in their exhibiting the architectural style of the period at which the College was founded.

The only remains existing of this ancient date are certain portions of the old rubble walls. The interest lies in the changes and patchings the buildings have undergone from age to age. They were never well built, and for a very long period have been in a dilapidated condition. So unsatisfactory had the state of the buildings become more than half a century ago that a special fund was created for the purpose of rebuilding, which, added to by private donation and nursed with fostering care, at length attained to a respectable amount. About twelve years ago the question seemed ripe for being dealt with, but an opportunity offering at the same time for acquiring an additional plot of ground adjacent to the College, it was deemed more advisable to buy this and postpone the building scheme until the fund should have recovered from the outlay. The buildings, however, were at that time in such a critical state that a certain outlay was necessary in order to render them serviceable during the intervening period. It was at this time Mr. Cory's services were called into requisition, and what he did was to the entire satisfaction of the College. No substantial repairs or alterations were attempted, but he put so respectable a face on things that people erroneously imagined such repairs and alterations were still possible, while the younger generation has regarded his wood decoration of the interior of the Hall as a relic of antiquity to be religiously preserved. According to the plan now adopted the old buildings on the south side of the first court have been swept away, letting in light and air to where all was dismal and dark. A new Hall and Combination-room are to be built on the site of the old, and, lastly, a new library, with lecture-rooms, is to be erected at a suitable distance to the south. Mr. Cory's imagination must be responsible for the idea that the chapel is to be "Gothicised," and the Queen Anne's-style building in the second court pulled down. The Master and Fellows only arrived at their decision after availing themselves of the best means in their power to ascertain the state of the old buildings and giving full consideration to the requirements of the College, and they do not shrink from the responsibility it entails.

GOVERNMENT CONTRACTS IN THE UNITED STATES.

THE American correspondent of the *Times* says that the new Governor of New York, the Hon. Samuel J. Tilden, has signalled his advent to office by entering upon an analysis of the system of contracts for canal work by which the Government is swindled. The State Constitution provides that all contracts for work or materials shall be made with the lowest bidder, adequate security being given for their performance. This requirement was intended for protection, but by artful bids and fraudulent combinations it is made an instrument to defeat the very end in view. The Governor has examined more than one hundred contracts, and finds that most are so contrived that not only does the State in the end pay from two to four times the amount of the contract, but that the work is not given to the lowest bidder in fact, though it may be in form. The method of this is described. When a contract is to be let, the engineer makes an estimate of the quantity and kinds of work to be done. The bidders state their prices for each item; these prices are added up, and the bid amounting to the smallest sum is accepted. The sums thus agreed upon average little more than half the amounts estimated, and apparently the State makes advantageous contracts. On examination it will be found that the prices for these items bear no relation to their real value. In some cases the excavation of earth is put at 1 cent. per cubic yard, and in others 85 cents; excavations of rock by blasting, at 1 cent in some cases and \$2 in others; slope wall is built in some cases for 20 cents and in others \$2; hemlock timber, which is worth at least \$12 per 1,000 feet, is in some contracts put at less than \$2 per 1,000 feet, and in others at \$30; oak timber in one instance is put at \$1 per 1,000 feet, and in others at \$70. Some items are absurdly low, and others unreasonably high. In some instances a contractor will put in proposals on the same day for different jobs; but prices for the same kind of work or materials will vary in the proposals several hundred per cent. It is clear upon the face of such proposals that fraud is intended, but the Canal Commissioners have been in the habit of accepting them, though the Governor is happy to state that one Commissioner, at a recent letting, rejected this class of proposals, which are known as "unbalanced bids." The contractor gains his point by "strategy" in the carrying out of these contracts. When the engineer's estimate is published the contractor finds out, by collusion or in some other way, what quantity of each kind of work or material will in fact be required, or he will use his influence to change the contract after it is made. If it is changed there is no new letting, but he claims the job as his right. He puts in his bid, offering to do such work or furnish such materials as he finds will not be required at all, or in small quantities, at absurdly low prices—at a quarter or in some cases one-twentieth the real cost. The items which will be required in full, or probably in extra quantities, he will put at unreasonably high rates. It turns out then that what the contractor has offered at low prices is called for in small quantities, if at all, while those which are put at high prices are not only required in full, but in most cases in extraordinary quantities. Governor Tilden gives an example of this plan in operation.

The engineer estimated certain work and material as follows:—"100 cubic yards of vertical wall at \$2, \$200; 3,855 cubic yards of slope wall at \$1 50c., \$5,782 50c.; 2,400 feet B. M. white oak at \$50, \$120; 40,000 feet B. M. hemlock at \$15, \$600. Total estimate, \$7,182 50c."

The bid of A, an honest bidder, for this contract was naturally \$7,182 50c. B's bid for the same contract was:—"100 cubic yards of vertical wall at \$8, \$800; 3,855 cubic yards of slope wall at 30c., \$1,156 50c.; 2,400 feet B. M. white oak at \$70, \$168; 64,000 feet B. M. hemlock at \$3, \$192; and aggregated, \$2,104 50c."

B's proposal, apparently so advantageous, was accepted, and the contract awarded him as the "lowest bidder." Afterwards, by some influence, it was decided to make only vertical wall and no slope wall, and to use only oak and no hemlock timber. B, under this, when the work had been completed, although he built no more wall and furnished no more timber than the contract called for, had collected from the State nearly fourteen times his bid, thus—"2,995 cubic yards of vertical wall at \$8, \$23,960; 62,400 feet B. M. white oak at \$70, \$4,368—the sum of \$28,098."

To show the result of this system in the aggregate ten cases are quoted in which the amounts of the contracts upon exhibited quantities at contract prices was \$424,788, while the amount actually paid by the State to the bidders under these ten contracts had reached, down to February 1, 1875, \$1,560,709, and they were still in operation, some of them with no prospect of completion. By these manoeuvres the cost of the public works is run up to extravagant sums, appropriations being absorbed, deficiencies created, and the people loaded down by taxes.

CENTRAL RAILWAY TERMINUS IN THE CITY.

ACCORDING to the *Railway News* a scheme, which, taken in connection with the completion of the inner circle, is one of great importance, has been just now submitted to the public. It provides for the erection of a great station on the wedge-shaped area (1½ acre in extent), the point of which is formed by the meeting of Queen Victoria Street and Cannon Street, the back being represented by the western side of Walbrook. It is also proposed to widen the latter thoroughfare to the same width as Victoria Street and Cannon Street and Bucklersbury, so as to bring them into harmony with each other. The widening of Walbrook will not in any way interfere with that gem of architecture, St. Stephen's Church, otherwise than to improve it by removing the unsightly tower which, be it remembered, formed no part of Wren's plan, in order to build on the south side a belfry more in keeping with the structure. The scheme does not stop here. It also proposes a subway from the Wellington statue, in front of the Royal Exchange, to the south-eastern corner of the Poultry, throwing out branches at right angles to the corner of the Old Jewry on the one side, and to the steps (the western) of the Mansion House on the other, with another offshoot starting from the same point, and running down between the building of the National Safe Deposit Company beyond the limits of Bucklersbury, as it will be when the widening has been carried out. A system of subways like this is absolutely required in the neighbourhood in question, where such is the concourse of waggon and coach traffic, that a man, while he tries to make his way from one crossing to another, cannot for a moment call his life his own. The principal feature of the scheme, however, is the railway station, into which there will run over the inner circle not only the trains of the Metropolitan and Metropolitan District Company, but likewise those of all the other companies which use those lines, as the Midland, the London and North-Western, the North London, the Great Western, &c. In fact, the whole of the local traffic of the several railways must find its way into this station within a stone's throw of the great centre of business, the Bank, the Royal Exchange, &c., while the subway will enable the passengers to make their way to and fro without any risk to life or limb. Some of the advantages of this scheme are so obvious, that it is expected that both the Corporation of the City of London and the Metropolitan Board of Works will co-operate with the promoters in carrying them out.

THE STEWART GALLERY.

THE cabinet collection of paintings belonging to the late Sir William Drummond Stewart, Bart., of Grandtully and Marthly, was sold lately, with some other works, in Edinburgh. As will be seen by the following, the prices realised were not high:—

A set of four allegorical pictures, by Paul Veronese, 112l. 16s.; "Portrait of Raphael," by himself, 73l. 10s.; curious old portrait of Alexander the Great, 29l. 8s.; "Portrait of Mary Queen of Scots," from the Logiesalmond collection, 29l. 8s.; "Christ and the Woman of Samaria," by Carlo Dolce, 34l. 13s.; three views on the Grand Canal at Venice, brought respectively 22l. 18s., 16l. 15s., and 10l. 16s.; a "View in Rome," by Panini, 17l. 17s.; a "Boy and Goat," by Spagnoletto, 18l. 18s.; "The Mativity," by Albano, 21l.; "River Scene," by Cuypp, 12l. 12s.; "Portrait of Prince Mauritz," by Boonen, 10l.

"The Royalist," by E. R. Pickersgill, R.A., 120l. 15s.; "View in Strathyre," by J. B. MacDonald, A.R.S.A., 42l.; "Brougham Castle," by Sam Bough, R.S.A., 48l. 6s.; "Little Polly," by W. Q. Orchardson, A.R.A., 16l. 4s. 6d.; "Dunglass," by J. Milne Donald, 13l. 13s.; "Buffalo Hunting," and the "American Indian Camp," by A. Miller, 13l. 13s. and 14l. 14s.; "Lago Maggiore," by J. P. de Fleury, 19l. 19s.; "Near Land's End," by Holmes, 12l. 12s.; "Iachia, Northern Italy," by Pollentine, 18l. 18s.; Study—"The Poetess," by Sir J. Noel Paton, R.S.A., 19l. 19s.; Cabinet Landscape, by Horatio MacCulloch, R.S.A., 14l. 3s. 6d.; "Inverary Castle," by John Ewbank, R.S.A., 21l.; Landscape and Castle, by Henry Savery, 18l.; "The Midnight Reveller," by Koeley Halliwell, A.R.S.A., 10l.; River Scene, by Miss Nasmyth, 12l. 12s.; "An Incident in the Life of Tasso," by Cavaro, 10l. 10s.; "The Leam Woods, Warwickshire," by Baker, of Leamington, 16l. 5s. 6d.; water-colour drawing, by John Linnell, 21l.; another by David Cox, 10l. 10s.; and one by Edward Duncan, 16l. 15s.; a panel of old tapestry representing Moses striking the rock, brought 27l. 6s.; and another with allegorical subject, 19l. 19s.

COMPETITIONS.

UNDER this heading we propose to give each week, or as often as may be necessary, a brief account of the conditions of such competitions as may at the time be open to the profession. In doing so we shall point out what conditions have been framed in accordance or at variance with the rules agreed upon at the General Conference of 1872; beyond this it will not be our province to go, our object being to help the reader to ascertain (more than an advertisement can) whether the conditions of a particular competition are likely to meet with his views, rather than to furnish a reprint of such details of requirements, &c., as he must, after all, obtain for himself. The numbers refer to the corresponding paragraphs in the General Conference Rules above mentioned.

Mazborough Market Hall.

The conditions of this competition are not in accordance with rules 1, 3, 6, 7 and 9.

The cost, it is said, must not exceed 4,000*l*. The Board offer one premium of 25*l*, and then follows the too frequent clause, "the plan to be the property of the Board"—a clause which will continue to be usual as long as architects are weak enough to submit to it.

Time, May 1.

Lincoln County Hospital.

Three weeks ago we drew attention to the very unsatisfactory conditions of this competition. We have now received *inter alia* the following "additional information":—

3. Scale, 1/4 in.

4. The sum named, viz., 20,000*l*., is to include architect's commission and all extras.

7. The architect whose design is chosen is to be employed to superintend the construction of the building.

Time, as before, June 10.

PLUMBERS' WORK IN NEW YORK.

THE *New York Times* says that—"It is not at all an improbable supposition that we have entered upon a 'cycle' of cold winters which may last for some years. There is—so far as anything can be made out from so unsettled a science as meteorology—a tendency to repetition of given grades of temperature during fixed periods. It is obvious that if we are to have five, ten, or twenty such Arctic winters as this has been, our community will be totally unprepared to meet them. Neither our garments nor our buildings are fitted for such low temperature.

"To ninety out of a hundred of city residents, 'life has been a strife' this winter. It has been impossible to keep the house warm. House water-pipes have frozen. Unflushed drain pipes have made whole neighbourhoods odorous of bad gases. A portion of our difficulties may be traced to our builders and architects. No architect seems to understand that the peace and comfort of domestic life depend mainly on water pipes. The profession seem peculiarly indifferent where they put the 'waterworks.' There are scores of houses in which the bathroom and closets have been carefully placed by the builders in the coldest corner, and which have not had an unfrozen water pipe for the whole season. In the country the first duty of the architect is to place the water pipes behind the kitchen chimney, because this is a source of heat which never is exhausted. All features of the house plan should be sacrificed to this. But our country houses are built too slight and thin. They will have also to adopt the brick porcelain-covered stoves of Russia and North Germany. Open grates will evidently not answer in such weather as we have had recently. Both city and country houses ought to make free use of double windows, for a double window is equal in its influence on temperature to a moderate fire. The community must begin to dress and to build, as if Arctic winters might come every year."

THE QUILTER COLLECTION.

SELDOM has there been a better opportunity of comparing the characteristics of the chief masters of the English water-colour school, than has been offered by the three days' view of the collection of Mr. William Quilter this week at Messrs. Christie, Manson & Wood's. Of the 417 drawings and sketches, no less than 114 were by David Cox, and in them the career of the artist was represented more fully than in any previous exhibition that we remember. One of the drawings dates as far back as 1819, while others were among his latest productions. It is interesting to watch in these the growth of his powers until he was able to grapple with the movements, and to represent the variable effects of English cloud-scenery in all seasons with a vigour and truth which are unique, and which to many eyes make David Cox the first of National landscape artists. Compared with Turner, for instance, within how narrow a range did he limit himself. Bettwys-y-Coed, Beaumaris, the Vale of Clwyd, Powis, Kenilworth, Bolton, Haddon, and some others, are the names associated with his name, but who would desire a different field for his genius. Out of all paintings here from his hand there are not half-a-dozen which owe their inspiration to a foreign source. The collection contained but three examples by Copley Fielding, *Rivaulx Abbey* (exhibited at the Water-Colour Gallery in 1842), *Loch Awe*, and *The Moll of Galloway*, but they are fine types of his style, the first being one of the loveliest ever produced by him. There were eighteen Turners, some of them, viz., *Thun, Chantebury, The Tomb of Cecilia Metella, Oberveisel*, may be remembered as being in the Winter Exhibition of the Academy in 1873.

We can but mention the names of the remaining landscape artists, of whom examples formed part of the Quilter collection, viz., George Barrett, Bennett, J. B. Harding, De Wint, Varley, Holland, D. Roberts, Ottman, T. O. Cooper, Foster, Duncan, Frapp, Müller, Clemmell and Callow.

Among the figure painters William Hunt was represented by his *Too Hot, Cymon and Iphigenia*, the *Money-dropper*, the *Doubtful Crin*, and *Devotion*, as well as by those gems of still life which are no less associated with his name.

There were about twenty Catermoles, all very dramatic and telling, but still with a marvellous resemblance to each other, for it is difficult to trace any progress in his works. The names are by themselves almost sufficient to suggest the treatment of the subjects: *Benvenuto, Cellini and the Brigands, Macbeth and the Murderers, The Darnley Conspirators, The Knight and his Lady's Visit to the Armourer's Shop, The Sleeping Warder, &c.* Sir John Gilbert was represented by his *Duke of Gloucester and the Murderers*, a drawing with all the defects and but few of the merits of his style. Of examples of Mr. Topham's graceful but sometimes weak pencil there were the *Girl Spinning*—which was engraved by one of the Art Union, *The Holy Well, Little Nelly in the Churchyard*, and *Oliver Goldsmith*. The last, we believe, has the interest attached to it that it formed the nucleus of Mr. Quilter's collection. There was but one drawing by Mr. F. Walker—*The New Boy*—but there were four of the noble works of Mr. F. W. Burton, viz., *La Marchesa, La Romanina, A Remnant of the Bronides*, and *The Rendezvous*, and which, in their way, have never been surpassed. Mr. J. F. Lewis, R.A., was represented by five of his elaborate paintings.

Next week we shall give the prices at which the principal of these pictures were sold, and which ought to be high. It is rumoured that the collection cost at least 80,000*l*.

NOTES ON NOVELTIES.

Roberts' Self-acting Painting Machine.

Mr. W. Roberts, of Derby Road, Bootle, near Liverpool, has recently patented an invention for painting the laths of Venetian blinds, hoop iron &c. The machine is so simple in its construction that it is almost impossible for it to get out of order, and the work executed by it is fully equal to the best hand-painting. The rapidity with which the machine does its work is simply marvellous. We have seen the laths for Venetian blinds 4 feet 6 inches in length and the usual width painted by a man and two boys at the rate of upwards of 600 laths per hour; and the machine can be kept going at this rate for any length of time. We are informed that in the North of England and Scotland the machines are being extensively employed for the painting of hoop iron, when, as will be seen, from the description of the *modus operandi*, the above rate of speed would be very greatly exceeded.

The machine employed is in some respects not unlike a small printing machine. It has a trough, which is filled with paint, and the lath or object to be painted is passed with great rapidity through the paint by means of two rollers. Immediately beyond the trough are two sets of peculiarly-constructed brushes, which distribute the paint in exactly equal proportions over the entire surface of the object to be painted. For instance, in painting a Venetian blind lath, the end is simply placed between the rollers, which immediately commence to run it through the trough of paint and pass it on until it leaves the brushes, when it is seized by a boy, who catches the lath with a bradawl as it leaves the machine, and another lad receives it and hangs it up to dry. The lath is completely painted on both sides and at the edges in one operation. We have not seen the machine at work on hoop iron, but are informed that it has painted in the yard of Messrs. Nicol & Dunn at Dundee more than five tons weight of thin hoop iron within the hour. For the information of such of our readers as are interested in the matter it may be well to state that one of these machines may be seen daily in operation at the window blind manufactory of Mr. Henry W. Green, the Kilburn Blind Works, London, N.W., Mr. Green having courteously offered to show the machine to any person who wishes to see it.

Francis's School Desks.

A very simple and well-constructed convertible school desk has recently been patented by Mr. David Francis, of Exmouth Street, Birkenhead. The standards (which are welded and bolted together) and all the working parts are formed of wrought iron, and are in consequence very strong, although light in appearance. A bar of extra thickness is inserted in the upright portion of the back to give greater strength, and to form a knuckle to which a movable top is hinged. The movable top is finished with plates or brackets formed in Liron, with ratchet and tongue worked from the solid, and not welded on. Plates are secured to the top by four strong iron screws, and to the standards by a bolt running through the knuckle. A longitudinal slot is provided at the end of a tongue. The bolt has a head at one end, and is secured at the other by means of a split pin with ends turned round the bolt. By means of the longitudinal slot at the end of the tongue the movable top can be moved to any angle, and secured in the desired position by means of teeth worked in the ratchet which catch in the upper portion of the standard. The seat is secured to each standard by two flat round-headed bolts and nuts. To make the desk and seat more rigid, stays are fixed to the underside of the seat, and secured to the standard by bolt and nut, and to the seat by bolt and nut and a strong iron screw. Two of the desks placed back to back form a table with seats, or can be made by simply a turn of the ratchet to assume the slope necessary for a desk, or by complete reversal a seat with back. No pins, wedges, or bolts are required to secure the desk in any position, the desks being completely self-locking. We are informed that the price is not greater than that of desks with cast-iron standards.

SEWAGE IRRIGATION RETURNS.

AT a meeting of the Blackburn Corporation held last week, Councillor Beads carried a motion calling the attention of the Home Secretary to the manner in which the Blackburn Corporation have been imposed upon in carrying out the irrigation scheme. The ex-Mayor said that the prosperity of the town had been blighted through excessive expenditure and heavy rates; 260,000*l*. had been spent. In every instance the Corporation had had to pay three times the value of land taken. A searching inquiry ought to be instituted, and the way in which the Mayor and Corporation of Blackburn had been oppressed ought to be represented.



The Soane Medallion.

SIR,—As you were kind enough to insert a letter of mine in your issue of the 25th ult. on the subject of the Soane Medallion, I beg to forward you for publication a copy of a letter which I have received from the Secretary of the Institute, purporting to be a reply to my letters of protest. It will be seen, however, that it does not really answer my objections at all, as I did not say that the word "corresponding" meant "identical;" and the appeal to numbers only indicates that the majority of the competitors were acquainted with the loose dealings of the Institute in such matters. It seems certain, therefore—and it were well that all intending competitors should know this—that the conditions issued by the Institute are not intended to receive their *primâ facie* interpretation, but that each competitor is to put upon them the broadest, and, to him, most advantageous interpretation that he can devise.

Your obedient servant,

F. P. JOHNSON.

8 Lucas Terrace, Bow, E.,
April 5, 1875.

[Copy.]

Royal Institute of British Architects, &c.,
9 Conduit Street, Hanover Square, W.,
April 3, 1875.

SIR,—In reference to your letter of the 15th ultimo, addressed to the Council of this Institute respecting the awards recently made in the Soane Medallion competition, I am requested to inform you that the points which you raise were carefully considered by our Committee after your objection had been made known to them, and that our Committee having re-examined the drawings saw no reason to alter their original recommendation.

I need hardly remind you that the word "corresponding," as used in the conditions to which you refer, does not mean "identical," and the fact that of thirteen candidates who competed for the prize only a very few (four, I think) interpreted the conditions as you did, should be a sufficient answer to your objections.

After the explanation given at our Special General Meeting, on the 15th ult., I scarcely supposed that this letter would have been necessary, but observing that you have renewed your complaint in one of the professional journals, it may be well to send you a formal reply.

Faithfully yours,

(Signed) CHARLES L. EASTLAKE,

Secretary.

F. P. Johnson, Esq.

LEGAL

Liverpool Spring Assizes.—April 5.

Before Mr. BARON POLLOCK.

HORNBLOWER AND ANOTHER v. EYTON.—ARCHITECTS' FEES.

This was an action to recover the sum of £121. for work and labour done, the plaintiffs being Messrs. Hornblower & Son, architects, Liverpool, and the defendant Mr. Peter Ellis Eyton, M.P. for the Flint Boroughs, who pleaded that a bill for 100*l.* had been given in satisfaction of the debt. Mr. C. Russell, Q.C., and Mr. Bigham were for the plaintiffs, and Mr. Collins appeared for the defendant. In opening the case, Mr. Russell said Mr. Eyton, in April, 1873, thought it would conduce very much to the improvement of Rhyl and neighbourhood if certain erections—such as a concert-room, dancing, refreshment, and retiring-rooms—were put up upon the pier there. He urged that course upon the directors of the Pier Company, but they seemed to be unwilling to take the risk, and they suggested that Mr. Eyton himself should do it, and they would pay him in shares of the company. Mr. Eyton took the matter in hand, and he and some of the directors had interviews with Mr. L. Hornblower in reference to the scheme, when suggestions as to the nature of the work were given by the defendant. On December 9 Mr. F. Hornblower went down to Rhyl and submitted plans to the defendant, who suggested certain alterations, amongst others the addition of card and supper-rooms. Fresh and extended plans were drawn up in accordance with the suggestions of the defendant, and on January 13, 1874, Mr. Frederick Hornblower again went to Rhyl and submitted them to Mr. Eyton, with whom he left them. Nothing further seemed to have been done in reference to the matter until March 13, when Mr. F. Hornblower went to London and saw the defendant, who again suggested certain alterations, and plans were then finally made out, but have not been acted upon. The claim included five per cent. on the cost of the work and expenses incurred in connection with submitting the plans.

The defendant submitted that the cost of the work was originally estimated at 1,500*l.*, and that he was not prepared to go beyond that sum. The work had not been proceeded with in consequence of the plaintiffs obtaining estimates and giving the cost at something over 5,000*l.*, but he (the defendant) was willing to proceed with the work at the cost of 1,500*l.*, and he had all along been under the impression that the work could be executed for that amount.

The jury found for the plaintiffs, and awarded 122*l.* over and above the bill for 100*l.* already paid.

Liverpool Assizes.—April 6.

Before Mr. JUSTICE FIELD.

EVANS v. HAMER.—SURVEYORS' COMMISSIONS.

The plaintiff was Mr. Howard Evans, architect and surveyor, Barrow-in-Furness; and the defendant was Mr. John Hamer, architect to the Corporation of Bradford. The action was brought to recover 96*l.* 5*s.* commission upon the sale of land belonging to the defendant. In the early part of 1872 the defendant, at the suggestion of the plaintiff, bought some land in Barrow at 2*s.* 6*d.* a yard. The total purchase money was 3,213*l.* 2*s.* 6*d.*, but the defendant only paid a deposit of 150*l.* He commenced brickmaking on the land, but the business was not successful, and he then desired to sell it. Some negotiation took place, and the plaintiff ultimately found a purchaser for the land at 3*s.* a yard in a new company which was being formed. This company paid 3,850*l.* for the land, so that the defendant made a profit of 637*l.* upon the transaction within 18 months, although he had never been required to pay more than the deposit of 150*l.* According to the plaintiff's account the defendant had offered to give him 40*l.* as his commission; but he declined to take less than the usual commission of 2½ per cent. For the defence it was denied that there was any undertaking to pay commission, the defendant saying that he sold the land, not to the company, but to the plaintiff himself. A legal point was also raised on the ground that the plaintiff, being one of the shareholders in the new company, could not claim commission upon a sale to himself; but, in reply to this, it was urged that the articles of association of the new company were not signed by the plaintiff until after the agreement by the plaintiff to sell the land to the company.—The Jury returned a verdict for the defendant.

General

The Exhibition of the Belgian Gallery, Old Bond Street, will not be opened until the 17th inst., in consequence of a fire which has caused great damage in the Gallery.

The Exhibition of Ancient and Modern Furniture in connection with the City and Spitalfields School of Art, was visited during the nine days it was open by the following number of visitors:—March 22, 650; 23, 380; 24, 380; 25, 518; 26, 478; 27, 438; 29, 606; 30, 815; 31, 2,000—total, 8,274. It is believed the numbers would have been larger had there been the means of giving greater publicity to the exhibition.

The late Exhibition of Modern Paintings at Brighton is considered to have been a success. Out of 363 pictures exhibited for sale, 69 (the productions of 56 artists) were sold, and realised the sum of 1,022*l.* 11*s.* The highest price given for a painting was 73*l.* 10*s.* Several artists have received commissions through their works exhibited at Brighton.

Her Majesty has contributed to the forthcoming Yorkshire Exhibition at Leeds two pictures from Buckingham Palace, viz., *Chantry's Studio*, by Landseer, and *The Opening of London Bridge*, by Stanfield.

Alderman Jessop, of Sheffield, has given 12,000*l.* towards the erection of a hospital in that town.

Mr. Alderman Walker, the donor of the new Art Gallery at Liverpool, has requested the Town Council to give up the project for erecting a statue in his honour.

Mr. Hawkey, C.E., has recommended that the precipitation system should be applied to the sewage of Richmond at a cost of from 45,000*l.* to 50,000*l.* In his report he says that the rapid accumulation of people in the valley of the Thames above London plainly indicates that the period is not very remote when it will be necessary to construct intercepting channels to collect and convey the sewage from parts as high up the river as Teddington to at least as low down as Erith Reach or Rainham Creek.

The Marquis de Chennevières, the Director of Fine Arts in France, resigned last week in consequence, as reported, of differences with M. Wallon as to a nomination of the Fine Arts Committee, but since then he has withdrawn his resignation. One of his latest official acts has been to exclude from the Salon a painting by M. Pichio representing a scene in the civil war with the Commune, which he thought might stir political passions.

Mr. J. G. Crace will lecture on "Colour and Decoration" at the Artists' Institute on the 24th inst.

Signor Fiorelli, on the invitation of the Italian Government, has left Naples to undertake the direction of the excavation of the antiquities in Rome. He was formerly director of the works at Pompeii.

M. Balthazar—a pupil of Paul Delaroché—has just died, aged sixty-four. He devoted ten years, from 1860 to 1870, to the restoration of the painted glass in Toul Cathedral.

The Sub-Wealden Exploration has, on the new site of boring, reached a depth of 373 feet by the diamond boring process. The old boring, it will be remembered, was abandoned in consequence of the tools having dropped, and the new one was only commenced on February 11. Some of the cores form unbroken columns of hard rock seven or eight feet in length.

A Convict Prison is about to be erected at Wormwood Scrubs.

The Decoration of the great organ in the nave of Worcester Cathedral (the gift of Lord Dudley), has been for the present suspended, the stoppage of the works causing much speculation.

A Stained Glass Window, if funds are subscribed, is to be erected in the Cathedral of St. Canice, Kilkenny, as a memorial of the late Dr. O'Brien, Bishop of Ossory.

A Public Meeting was held in Salisbury on Wednesday last, under the auspices of the Bishop, in connection with the proposed restoration of the choir and interior of the Cathedral. About 8,000*l.* is required to complete the work.

The Greek Chamber has approved a convention concluded between the Greek and German Governments, relative to the excavations on Mount Olympus.

The Synod Hall, Dublin, was opened on Tuesday. It was designed by Mr. Street, and erected at the sole cost of Mr. Henry Roe, the outlay being about 27,000*l.*

Messrs. Thomas Cook & Son have been appointed general passenger agents for the British section of the exhibition. Under this appointment they have to make, on behalf of the British Executive, the whole of the arrangements with the Atlantic steamers and railway companies for the conveyance of the exhibitors, their assistants, and workpeople, and also for the conveyance of the goods to be exhibited; and they promise the exhibitors that every effort will be made to obtain as liberal arrangements for crossing the Atlantic as were made for the English exhibitors at the Vienna Exhibition of 1873.

The Architect.

MR. BARRY AND THE NATIONAL GALLERY.



WHEN the Early Christians, on the canvas of the painter, were thrown to the Tigers to be devoured, there was "one poor tiger," as some of our readers may remember, "who hadn't got a Christian." Lord HENRY LENOX evidently regards Mr. EDWARD BARRY in something very closely approaching to this light. A quantity of prey has been thrown to the wild beasts of the architectural arena during the last few years, and here is one poor architect who hasn't caught his share; whom, therefore, the most kind-hearted and courteous of First Commissioners invites the House of

Commons cordially to pity.

It does not very clearly appear what may have been the real motive with which Mr. BARNESFORD HOPE put the question he did to the Government regarding the New National Gallery. Once upon a time, and that not so very long ago, the honourable member would have scarcely cared to present even the appearance of countenancing, not to say advocating, the execution of such a design as Mr. BARRY'S. Can it be that he has gone over to "Queen Anne"? Or has he been all this while in secret an Eclectic? Does he take it to be possible that modern Gothic has played itself out; or has he been at heart for some twenty years past no better than a Philistine, accepting the doctrine that the "Styles" have each its own province? We prefer at any rate to suppose that neither of these unhandsome hypotheses is correct, and that the estimable Past-President of the Institute is actuated by no deeper desire than the general wish to see something more in accordance with the opinions of the day taking the place of WILKINS'S unpopular façade in Trafalgar Square. To those who know best what are the personal predilections of Mr. BARNESFORD HOPE it may seem doubtful enough, perhaps, whether Mr. BARRY'S work would meet with his approbation when executed; but for the present, as we take it, he consents to waive all such considerations, and to look upon the vexed question of the National Gallery as one that ought to be settled at once, by the removal of the old edifice as matter of taste, and by the carrying out of the selected design of the competition as matter of honour.

The reply, however, which the representative of the Government offered to Mr. HOPE'S observations was scarcely so satisfactory as could be wished in any sense. Like an expert strategist, Lord HENRY LENOX arrays his arguments in a triple line of battle. First, says he, Mr. BARRY'S case is only one of those personal grievances which are as plentiful as blackberries, even in the exalted sphere of Parliament itself. Secondly, the Government has not, as matter of fact, broken faith with Mr. BARRY at all. Thirdly, the present Government is so well known to be earnest in its patronage of art as to render its defence against any contrary insinuation quite needless. Incidentally the minister pointed out also two other facts; the galleries just completed by Mr. BARRY, although hidden from view externally, will presently be found, on inspection from within, to constitute an unexpected monument of his genius; and the providing of the money for what further ought to be done at Trafalgar Square is rendered impossible by the voracious demands of the India Museum, the Natural History Museum, and other kindred works at Edinburgh, Bethnal Green, and elsewhere. There was moreover one more intimation which the noble lord took the opportunity of making, and which was especially full of interest; no one, he said, who had ever held the office of Her Majesty's First Commissioner of Works could by any possibility be reasonably supposed to have entertained for a moment the wish to humiliate so distinguished an architect; that is to say, Mr. AYRTON has been sadly misjudged when it has been alleged that he found a little characteristic pleasure in baiting the son of Sir CHARLES BARRY.

Now in so far as the mere disappointment of a public man is concerned, we are quite disposed to allow that every one must take his chance; and we should hope that Mr. EDWARD BARRY, besides being thankfully content with the position he has attained in his profession generally, as one of the most lucky amongst its members, has sufficient sound sense to perceive that it would be utterly absurd to call upon the nation to build a new National Gallery as a mere act of good faith towards himself as the winner of a competition. The fact seems to be that the Government has been only half-hearted, or indeed scarcely so much, in the whole affair of this competition from first to last. That any direct public demand had arisen for a new building when Mr. COWPER-TEMPLE took the matter in hand, no one can venture to suggest. The case of the National Gallery was simply tacked on to that of the Law Courts—nothing more. The absolute need for improved accommodation for the Courts had been for any length of time urgent in the extreme, the existing accommodation being more of a caricature than anything else. Moreover the funds

were actually at command. When, therefore, it was resolved that a competition should be instituted for the design of a building for this purpose, we may almost regret that the enterprise of Mr. COWPER-TEMPLE did not confine itself within the strict limits of the occasion. It was no more, perhaps, than an amiable feeling of eclecticism that intervened, but when, after a vast amount of preparation amongst the lawyers, the Office of Her Majesty's Works at length issued proposals for a great competition of architects, it was found that there were two of such transactions rolled in a manner into one, and that the National Gallery and the Law Courts were somehow associated together as two branches of one comprehensive contest. A certain number of architects, chiefly of Gothic taste, were selected for the one, and certain others, chiefly Classic, for the other; and this circumstance appeared to explain the mystery more than anything else. As a rule, however, nobody believed that the National Gallery project was one that would be ever carried into effect; and, had it not been for the proverbial delirium of architects when the red rag of competition is flaunted in their eyes, it is probable that few if any of the selected competitors would have entered into the affair at all. What made the matter still more unlike business was the curious condition that each competitor should choose for himself whether to design a new edifice or to amend the old one; and the readiness with which the authorities accepted the idea of giving a preference to a magnificent scheme for entire rebuilding, regardless of cost, was only one more evidence of the unpractical character of the scheme. With the Law Courts, on the other hand, the case was altogether different. That something must be built, and as speedily as possible, was perfectly clear to everybody. Consequently, when it came out after a while that Mr. BARRY, who was a competitor in both cases, had been placed foremost in both by a committee of assessors (somewhat oddly constituted, if we remember rightly, by the employment of a couple of property valuers, Mr. POWNALL and the late Mr. SHAW, to tabulate the merits and demerits of the designs), and when, after some further skirmishing, chiefly arising out of contempt for this tribunal, it was found that several of the competitors were making especial efforts to take the first place for the Law Courts while nobody seemed to struggle at all for the National Gallery, people were only confirmed in the conclusion that the one enterprise was a genuine one and the other not. The eventual upshot of the affair was even still more confirmatory of this view. There were three claimants for the Law Courts, Mr. WATERHOUSE, Mr. BARRY, and Mr. STREET; Mr. WATERHOUSE was provided for by being appointed successor to Captain FOWKE in the matter of the Natural History Museum at South Kensington, Mr. BARRY was told to be satisfied with the National Gallery, and Mr. STREET was left alone to take the Law Courts. This arrangement was on the face of it equitable in the extreme, (except, perhaps, for those who had gained the competition for the Natural History Museum), but we should be only giving way to false delicacy if we attempted to disguise the fact that Mr. BARRY was understood to be very much dissatisfied with his share. A mistake was made by some in supposing that he was self-complacent enough to expect to receive both of the great commissions in question; but those knew better who better appreciate the situation, and when at length Mr. BARRY'S claims sank down to the somewhat undignified level of a request that he should be allowed to go shares with Mr. STREET in the Law Courts,—a request which was refused—the reason obviously was not that Mr. BARRY was catching at a commission and a half but that he preferred half a reality to the whole of an illusion. In a word, we do not hesitate to suggest that Mr. BARRY was invited to deceive himself when he was awarded the National Gallery as his share of the reward in the great competition, and we scarcely know whether it is a satisfaction or not to add that he did not permit himself to be so deceived.

This plain-spoken statement of the case, if it should serve no other purpose, may at least be taken to afford one more illustration of the fallacy of the system of architectural competitions. Here is the Imperial Government itself so inextricably involved in the well-known difficulties of the system, that a sort of three-card-trick has to be resorted to for the purpose of affording an ignominious escape. Not only so, but when, after several years have elapsed, a rival political party is in possession of power, and the victim of legendain obtains a moment's hearing, he has to be put off with complaisant compliments to his own genius, amusing pleasantries about the grievances of all great men, and pleadings of poverty founded upon the costly nature of other undertakings besides his own. To all this we have but one word to say—Why was Mr. BARRY appointed as he was? We do not by any means propose that a new National Gallery should be built for his sake; but, feeling as we do that it was never seriously intended to build such an edifice at all, why was he awarded the commission to build it? Nor do we even blame the Government; for indeed, looking at the conditions under which our national architectural operations are carried on, we cannot see what other answer Lord HENRY LENOX could have been expected to give to Mr. BARNESFORD HOPE'S inquiries. We are content to blame the system of architectural competition. When two or three tallow-chandlers, competing for a workhouse contract, show up the samples of their wares in sordid emulation, they calculate less upon even the vulgar merits of the goods than upon some private understanding with friends at court, and their hope of profit is most likely based chiefly upon the expectation of being enabled to ring the changes in the

process of supply; but when a liberal and fastidious profession consents to furnish competitors in artistic and scientific design at the call of every one who pleases, and to supplement the contest of skill by the struggles of personal intrigue—well, it is perhaps at least to be regretted that they should fail to perceive the incongruity of an appeal to the fair play of such a game.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

Measure for Measure.

IN my notes on the tragedy of Othello, I classed the comedy of *Measure for Measure* with the Italian group, fixing the locality in Siena, and the date of the action in the author's own time. It is true that in the text the word is printed Vienna and not Siena; on the other hand, all the names of the characters are Italian or English. Mistress OVERDONE, if living in Vienna, would certainly not speak of "Signior CLAUDIO." The references to customs and legal questions indicate an Italian Duchy or Commonwealth, rather than the capital of the Archduchy of Austria. Siena was, in 1557, added to the dominions of Cosmo, Duke of Florence, who, after some time, obtained the title of Grand Duke of Tuscany, but there never was a Duke of Vienna. On these grounds I base the conclusion arrived at above.

The scenes, which are wholly architectural, are arranged in a manner that is, at first sight, almost irreconcilable with the modern stage requirements of set or built scenery. In the eighteen scenes, of which the five acts of the play are composed, we have thirteen different ones, including one interior in the Duke's palace, two interiors in ANGELO's house, a room in MARIANA's house, one room in a monastery, two interiors of a prison, one of a nunnery, three street scenes, a suburban road, and a piazza or public open place near the city gate. The chief difficulties are in the introduction of the two conventual houses in the fourth and fifth Scenes of the first Act, in the insertion in the middle of the second Act of the prison, and in the arrangement of the whole of the fourth Act. Reverence for the author makes one hesitate to suggest omissions or changes in the division of the Acts, which involve any considerable alteration. At the same time, by taking far less liberty with the text than has been, and is still taken by theatrical managers, we may find it quite possible to bring this play within the bounds of four set scenes. It is unnecessary here for me to point out how this should be done; it will be sufficient to say that the four scenes or acts would involve the total exclusion of MARIANA's house and of the conventual scenes, and that to the extent of their share in the plot they would have to be made matters of description. The arrangement I propose would then stand as follows:—

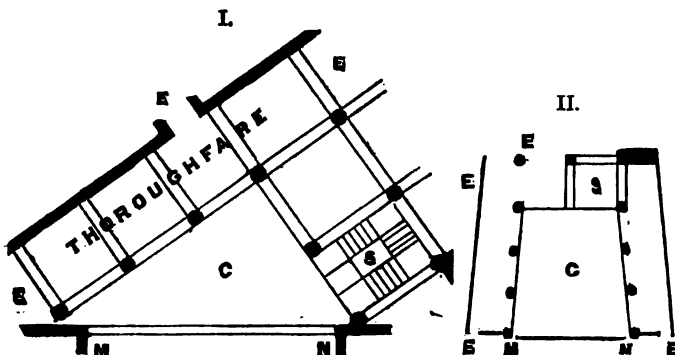
Act I. A street.

Act II. Interior of ANGELO's house.

Act III. Interior of prison.

Act IV. Outside the city gates.

The scene for the first Act may be an open place before the Duke's palace, with streets leading out of it in opposite directions. A loggia or a lofty open structure, like the open external Renaissance chapel attached to the angle of the palace at Siena, would fully meet the requirements of the first Scene in the play, where the Duke bids farewell to his deputies. On the other hand, seeing that the courts of Mediæval palaces were used frequently as thoroughfares (like the cloisters of Westminster Abbey), we shall be quite consistent if we place the scene *within* the court, which measures about 43 feet by 30 feet, and is surrounded by a cloister about 13 feet wide. At one end is the staircase leading to the ducal apartments, and to the foot of this, under the archway opening into the quadrangle, the DUKE, ESCALUS, lords, and attendants would descend at the rise of the curtain.

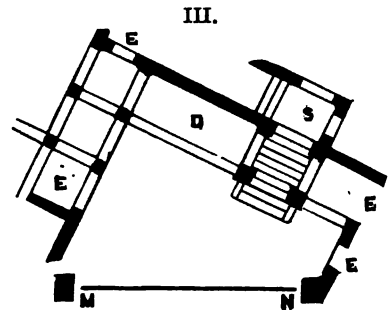


I give a sketch-plan in Fig. I. showing the actual position of the exits E, staircase s, and the pillars of the cloister surrounding the quadrangle or court c, M N is the proscenium. Where there is plenty of depth on the stage the court may be set square, the staircase being at the back, as in diagram, Fig. II. The architecture of the palace is Gothic of the fourteenth century. The building is of three storeys, and is almost entirely constructed of red brick. The hooks and rings for the ropes and poles of the awnings or blinds to the main windows

on the first-floor still remain, and the bare mention of such things is quite sufficient to suggest to any scenic-artist, deserving the name, the charming effect that such a scene as this might possess.

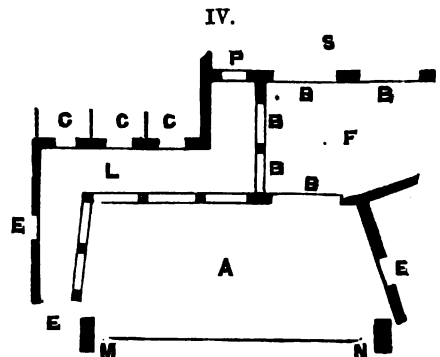
Measured elevations and details of this palace, and of the almost equally interesting palace Buonsignori, are given by Messrs. VERDIER and CARROIS in their work "Architecture Civile et Domestique" (MORÉL, Paris, 1864). The chief point, however, to note in the streets of Siena is that the Mediæval buildings are constructed of brick, and the Renaissance architecture of stone. Yet while brick is the main element in the construction of the earlier works, it must be remembered that terra-cotta ornaments, as well as stone and marble, were used in combination with it, but the stone and marble were always introduced as sparingly as possible, as in small shafts, capitals, and bases, and in the continuous mouldings of cornices and string-courses. I may add that the windows were glazed as in Venice; that is, the glass was leaded and set in wooden frames placed clear of the shafts, so that the capitals and bases could be shown in all completeness.

By far the greater part of the second Act occurs in the interior of ANGELO's house. It is true that there is a short scene (3rd) of about forty lines which takes us to the prison, and allows a night to pass before we find ourselves back in ANGELO's room. But this scene may very well be transferred to the third Act, and by a very slight omission in the text the unity of time and place may be preserved throughout the Act. The scene, then, we have to provide must be a hall arranged as a justice chamber in the palace of my Lord ANGELO. Again I find myself constrained to adopt a diagonally planned scene, as shown in Fig. III. Here M N is the proscenium;



s, staircase for the use of ANGELO; c, a courtyard; E, exits; and D, dais for the Deputies and Justices. The architecture may be either Gothic like the refined thirteenth century work of the Palazzo Buonsignori, from one of the rooms of which I have constructed this scene; or it may be Renaissance, like the Piccolomini or Spannocchi palaces. But whether Gothic or Renaissance be the style of the building, we may be quite sure that the distinctive Tuscan school of Siennese painters would leave its mark on the walls and ceilings of the residence of such an exalted noble as Lord ANGELO. RAZZI (erroneously printed BAZZI in my notes on the Merchant of Venice), who lived and painted in the first half of the sixteenth century, was to Siena very much what TINTORETTO was to Venice, and his work may be seen in frescoes and altar-pieces in palace, and church, and private house. The painted (architectural) decoration of BALDASSARE PERUZZI (1481-1536), a Siennese architect and painter, should also be referred to. The Farnesina Villa, not far from the Farnese Palace at Rome, was both built and decorated by PERUZZI, but unfortunately only the decoration of a small portion of the second story remains.

The third Act is the prison scene, and for this I would advise an interior that might include the third Scene, of the second Act, the last of the third, and the second, third, and fourth of the fourth, with but one or two slight omissions; for although in the text the latter part of this act is placed in "the street before the prison" and the fourth Scene of the fourth Act is placed in ANGELO's house, there would be little or no difficulty in so arranging these as to make the interior of the prison a quite probable situation for the action of both scenes. Red brick-

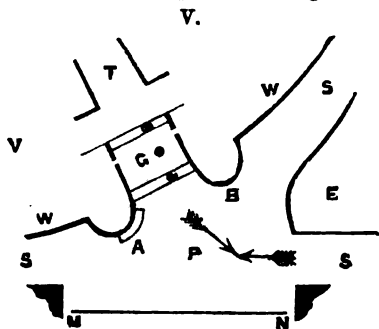


work constructed in the plainest Gothic manner is all that is required for the architectural character of this interior. The plan of

* The stones of the Siena palaces are of very small scantlings as compared with those in Florence or Rome.

the action and the dialogue demand some such arrangement as that indicated. Here *M N* is the proscenium, *A* an inner court of the prison, divided from an outer or public court *F* by arches filled with iron grilles *B B*, *S* the street, *P* the postern gate, *L* the corridor or cloister leading to cells *C C*, and *X* doorways leading to different parts of the prison.

The last or fourth Act takes us outside the city gates. In this I include besides the whole of the fifth Act of the play the short fifth and sixth Scenes of the fourth, and thus the latter is divided between the third and last Acts. The fields outside the town, the street near the city gate, and the public place near the city gate, are three scenes which can easily be thrown into one without doing the slightest violence to the course of the action. In Fig. V. I show a diagram of how this scene might be arranged. The walls and



gateway would be of brick and terra-cotta, the top of the gateway would be machicolated, but the old fortification of the Middle Ages was, even at the time of the play, already of more interest to the artist than to the military engineer. In Fig V., *T* is the town, *G* the gate, *W* the town walls, *P* the public place before the gate, *F* fields, and *S*, streets or roads near the gate. If the seats for the deputies are placed at *A*, if the friar places the ladies at *B*, and the Duke meets his deputies at the point indicated by the arrow, it is easy to arrange the scene so as to present a picture not inferior to any in the whole range of the comedies.

The costume of the Siennese does not receive very much attention at the hands of *Vascello*. He gives, at pp. 196 and 197, a married lady of rank, and a gentleman of position, who might have been the wife of a magistrate. There are two or three points to notice in these. The voluminous scalloped-edged mantle in which both ladies are shrouded, appears on the noble to be sleeveless, and is worn evidently with an eye to drapery effects; the other has capacious sleeves which touch the ground. The first is of delicate material, and is the utmost development of the veil reaching almost to the idea of a cloak and hood. The second is a kind of overall, with shaped body and shoulders. The dress of the noble is open in front, revealing a richly ornamented skirt, the body cut low, and sleeves tight from elbow to wrist. The noble lady wears a round-topped broad-brimmed hat, very like the modern felt worn by gentlemen in the country. A stiff-lace collar at the back of the neck, and a lace stomacher are to be seen in the second example. Both ladies have gloves, necklets of pearls, and neck chains, but no fans. For the rest of the costume we may refer to *Vascello*'s drawings of the inhabitants of Florence and other towns in Southern Italy.

In the text mention is made of velvet and three-piled pieces; English kerseys, gowns "and furred with fox and lambkins, too;" four suits of peach-coloured satin as belonging to one Master *Caper*; black masks; paint for women's faces, and also powder. There is, too, one very interesting passage in the first Scene of the second Act—a Scene which reflects the *English* justice room of 1590-1610 rather than the Courts of Siena—where *Pompey Bum* speaking, in his evidence, of stewed prunes, tells the magistrates that there were "but two in the house, which at that very distant time stood, as it were, in a fruit-dish, a dish of some three-pence; your honours have seen such dishes; they are not china dishes, but very good dishes." When, in addition to this statement, we know that in *Shakspeare*'s day Chinese *Tsee*, or porcelain, was a regular import of Venice, and that England amongst other European countries purchased "china dishes" there, we may very fairly conclude that no important house in the class of plays we are now considering, more especially in the Italian group, would be considered furnished without its china. Indeed, from the first introduction of Chinese porcelain by the Portuguese in 1503, specimens of this kind of ceramic art have been more or less eagerly desired, and so great was the demand for it that after 1550 it had grown popular enough seriously to affect the majolica manufactures of Italy.

The Signal Light at the clock tower of the Houses of Parliament was shown on Monday night for the first time in its new position. The present lantern is constructed specially for the purpose of showing the light by night, and being itself entirely out of sight by day. This is effected by means of a porthole in the roof of the tower, through which the lantern is run out similarly to a gun on board ship. The lights are at present naked ones, there being no lenticular apparatus used.

HOW WE BUILD.

HOW not to do it seems to be the aim which the inventors of some methods of working must have put before themselves. How best to do it is happily the obvious aim of many other such methods. Between these two extremes an infinite variety of degrees of convenience or inconvenience, fitness and unfitness may be recognised. The building craft is one where methods are not very often improved or readily changed; and, in passing from one end of England to another, an observant man may detect half-a-dozen different modes of doing the same thing; and almost everywhere he may easily detect certain apparent defects in methods, and will be driven to conclude that there is still room for great improvement if some genius among builders would only set it on foot; and if the employers and the operatives could but be brought to concur in it.

One of the most obviously imperfect methods in general use will, for the next few weeks, make our streets inconvenient and unsafe. We allude to the use of ladders for house-painting. In every street some house is or soon will be under the painters' hands. Tall ladders, reared with much pains, difficult to move yet requiring constant removal, unsafe and inconvenient to work from, and impeding the traffic, are planted against the premises. The painters spend much of their time in going up and down, while their fellows stand at the bottom to keep the frail structure from slipping; when at work half the painting is done by the men in some ungainly posture, hanging over from their perch and holding on with one hand, while working at all the disadvantage which risk and inconvenience combine to occasion with the other. There are, no doubt, some evils for which no remedy has been provided, but this painters' grievance is not one of them. The means exist for slinging a moveable scaffold from the top of any building; on such a scaffold the men can work safely and with comfort, so that we wonder that the old method is not exploded. Nor is the hanging scaffold the only thing which may be brought into use to aid in house-cleaning. The steam jet which was successfully employed by Mr. E. C. ROBINSON in the cleaning of Professor COCKERELL'S Church in Regent Street, ought to be in constant operation and to extinguish the old-fashioned pails and brushes with which house-fronts are now washed without being cleansed.

A radical defect in our building procedure from beginning to end is the want of system and foresight, and the failure to prepare in the work of one trade for the requirements of another. For instance, it is a common thing to excavate the earth and ram it into the walls, and then to excavate part of the same again for drains. This, however, is a smaller evil than similar ones which occur further on. The bricklayer, for instance, does not form the chase for soil pipes, or the eyes through which such pipes should pass through the wall. He leaves them to be cut out, that is to say, to be roughly hacked out afterwards. The same artificer avoids as often as he can building in wood plugs or bricks for securing the joinery, preferring to make haste on with his work, and quite careless of the fact that while plugs built in are likely to be both secure and safe, those driven in by the joiner are liable to get loose, and apt to penetrate into flues, there to occasion the most serious risk of fire.

The mason, again, cannot easily be prevented from setting his work full of slovenly mistakes, which are to be all made right at the "cleaning down;" and if this process is not omitted entirely, which sometimes happens, the chances are that many defects will get overlooked; while there is a certainty that the weathered face of the stone will be worked off in many places, and that the risk of decay from absorption of water will so be materially increased.

The carpenter has, perhaps, fewer opportunities of sinning in this way than other craftsmen; but his brother, the joiner, does enough for both. Floors are laid down with the certainty that a board must be taken up—or perhaps a dozen boards—for gas, for water, and for bells. Skirtings are fixed only to be taken down again. Windows are so contrived that there is no place for a blind without screwing unsightly blocks on to spots where they look out of place, and no provision whatever for the curtains which are certain to be required.

We all know how delighted the plasterer is to get his walls done before the bellhanger comes and the plumber finishes, and his ceilings completed in time for the gasfitter to cut them away; and as for the plumber, the daring way in which he will fix any piece of ill-looking pipe, battered where it aims at being straight, and sloping where a level line seems intended, in front of any other tradesman's work, is well known. The excuse for him is that no provision is ever made for him, and that were he to wait for such provision he could never do his work at all.

We are not quite prepared to deny that, whatever it might be with better trained men, this method may at the present day be the cheapest to follow, where the quality of the work is of absolutely no importance and getting done quick is the one essential point. We even doubt this however, were the comparisons between the two methods fairly made. But we have no hesitation in saying that the whole thing is a disgrace in buildings of a superior class, where the excellence of the workmanship and the durability of the building are matters of real importance. Architects are remiss in this respect; few of them look enough ahead. Any architect who would set his face steadfastly against all cutting away and making good could secure that proper preparation was made for nearly everything, and that all work to be

covered up was fixed before and not after that which is to cover it, by a certain amount of determination and foresight. This would be of very great advantage to the building, and need not cause any additional expense; though we quite admit that it might occasion some prolongation of the time over which the works were extended.

Defects in our method of working show themselves in other things besides "cutting away" and "making good." They are signally manifest in our failure to meet the conditions of our climate. Nothing is more common than for rain to penetrate brick chimney stacks built in exposed situations and to soak through into the rooms. A very simple preventive can generally be found in the use of a damp course of slate above the point where the roof joins the chimney. This damp course, however, is quite a rarity even in buildings having a claim to be well built. A damp course near the ground, a dry area, and concrete underground floors are all of them essential precautions in this country, and are as constantly ignored. Again, we suffer in this country from frosts which often send the thermometer to zero or near that point, and which sometimes last for many weeks, and during all this time certain fires are sure to be burning night and day, and certain flues to be always hot. It is, however, the rarest thing in the world to find the water cistern or the supply pipes fixed within reach of the heat radiated from the kitchen flue, and, indeed, it is rare to find any preparation worth calling by the name made for protecting our water supply from frost and its effects. The utmost is supposed to have been done which modern science can be expected to attain when the pipes are so arranged that the unfortunate householder has the means of entirely shutting off the water when the winter sets in, thus leaving himself without that prime necessity of life as long as the frost lasts; and even then it rarely happens that precautions have been taken to secure the kitchen boiler against destruction.

A more interesting and more encouraging view of methods is furnished by their adaptation to our needs rather than by the want of it. As we have pointed out blots and have complained of defects, which in our opinion call loudly for a remedy, we must not close without admitting that the question has another side. Certain methods which are found in certain districts are the result apparently of experience in dealing with the materials, or the climate, or the workpeople of the locality. These are often very valuable, and it is always desirable in going to a fresh district to learn what is the nature of them and the reason for them.

In many localities, as for example in Cumberland, where driving heavy rain has to be kept out by stone walls, it has become customary to avoid pointing the joints of masonry, and to lay it with the beds not perfectly level, but sloping to some extent from the back to the front of each stone, the stones being dressed with a face not at right-angles to the bed.

Many walls in the Lake district look as though they had been built without mortar, and, in fact, the mortar in their joints is kept back $\frac{1}{2}$ of an inch or more from the face; this masonry is, however, said to make drier walls than can be erected in any other way, and to compare very favourably with specimens of walling of the same thickness, and built with the same material, but pointed in the usual way and laid with level beds.

An amusing illustration of the adaptation of method of work to another class of local circumstances is furnished by the well-known story of the railway contractor, who in taking out plant to India, laid in a stock of wheel-barrows, considering that by introducing them he could effect a vast improvement on the native method of carrying earth on the head in baskets. For a long time he was unable to get the barrows adopted on any portion of the line; but at length hearing that one of his foremen had overcome the difficulty, he went to look and found the coolies making use of the barrows, it is true; but carrying them on their heads, instead of wheeling them in European fashion! European work in the East would furnish many such incidents, and were anyone to take the trouble to collect similar stories of local works in England, and of the contrast between the ways of the country folk, and of strange workmen, they could be got together by the hundred.

The upshot of the whole thing is that there is room for much improvement in our methods; and no doubt the responsibility of inaugurating such improvements rests with the most cultivated persons who have to do with the direction of work, that is to say first with architects, secondly with master builders, and thirdly with foremen and clerks of work. There is, no doubt, a considerable difficulty in the introduction of new methods, and it must rest more with architects than with any other people to overcome that difficulty. If an architect says a thing must be done, it is generally at least attempted, and if he say so to the workman himself, and take some personal trouble in pointing out what it is that he requires, and in what manner it can be accomplished, there are few workmen who will not put themselves out of their way to a very considerable extent in order to do what they are asked. Few architects realise that the position of a reformer is open to them, and perhaps there are not many who are entirely fit to fill it; but it is still true that many reforms are possible and, perhaps, called for in the art of building, and that with the solitary exception of those which obviously save money, which contractors are sometimes ready to originate spontaneously, it is to the architects of England that we must chiefly look for their introduction.

CATHEDRAL RESTORATION FROM A FRENCH POINT OF VIEW.

THE Révue des Deux Mondes, a periodical which rivals the *Edinburgh* and the *Quarterly Reviews* in its influence and reputation, has lately devoted an article to Cathedral Restoration, in which the subject is so well dealt with that it has appeared worth while to present an epitome of its contents to our readers. Parts of the article are devoted to the imperfections and dangers of the French mode of administering those funds which are allotted from the public purse to the maintenance of "Historical Monuments." These, however, though of no small interest, we shall leave almost unnoticed, as the same circumstances do not exist here, and could not possibly be introduced in this country; but the consideration given to the general question of what ought and what ought not to be done in restoring important buildings brings out results which are applicable to Great Britain as to France, though not to the same degree, and which the writer, MONS. ANATOLE LEROI-BEAULIEU, has put into very forcible and unmistakable language. This portion of his article we shall endeavour not to translate, but to condense as much as is possible without obscuring the sense:—

Our age is the first which has prided itself upon repairing the buildings handed down to us from antiquity without disfiguring them. Till now each period brought its own taste and its own style to bear upon the buildings of the past; but we reverse all this, and even borrow the forms and styles of bygone ages for contemporary buildings. We assert that it is always in their own style, and not in ours, that we restore our ancient cathedrals and venerable castles. Even if this be true, still we none the less accommodate the buildings which we touch to our own taste and our own caprice. The monuments which have escaped the perils of restoration as carried on in the past have only, by doing so, fallen into an opposite danger. It is no longer the ignorance of the architect, it is his learning that imperils them.

Thanks to our studious examination of the art of the middle ages, we have reduced it to rules far more precise and more fixed than it ever knew when it was a living art. We have almost come to believe that we understand Romanesque and Gothic better than those who constructed the monuments. The advantage of being able to survey the whole field has brought with it the disadvantage that we are tempted to classify and theorise to an extent which the circumstances hardly justify, and in this circumstance lies the root of a serious danger which threatens the buildings of the middle ages.

Many churches in France have been restored within the last half-century, and few indeed have escaped variations or modifications, of little moment perhaps to the general public, but in the eyes of the archaeologist most unfortunate. The restoration of the Cathedral at Evreux, now in hand, is a case in point. The building had two peculiarities; namely, the double flying buttresses of its nave, and the depressed nave-vault, which though pointed was but very slightly so, and belongs to a Gothic still timid and primitive—these features are being replaced by single flying buttresses, and a vault of a sensibly sharper pitch. No doubt the buttresses were clumsy and the depressed vault was heavy, and the partisans of the reconstruction can ask us why we blame a change which, so far as it alters the proportions of the building, does so only to embellish and correct them? Our answer is that by such improvements a building loses one of its priceless qualities as a work of art—its originality—and its very first quality as a historical monument—its authenticity.

A monument is a document, quite as much as it is a work of art appealing to the eye and the taste. The falsification of stone monuments is in no degree more excusable than that of written ones; the hand which restores them has no right to pervert the text. We know to what a point modern editors push their conscientious scruples, and we long to see their example followed by the restorers and repairers of our cathedrals.

The question is not whether we can or cannot improve the building; it is quite possible we can, for in the finest buildings as in the ablest writings it is sometimes possible to point out a flaw or a fault. The real question is, are we not bound to respect what exists, and to preserve for futurity the monuments of the past in their integrity and in all their original spirit? Our age has little sympathy with retouched pictures or restored statues, and no counterfeits or arbitrary alterations ought to be tolerated in architecture any more than in the other arts.

History and science alike demand that our monuments shall be maintained in their integrity; yet it is often the very portions which are most valuable in the eyes of the antiquary which are selected for alteration. The very features which by their anomalous, clumsy, or unusual character give rise to discussions and inquiries, are the very ones which in modern restorations are the most liable to be altered; and if the architect changed with the work is himself an antiquary, having his own theories on the history of art, the danger is only aggravated; for should he encounter details in the building which seem to him not to correspond with his ideas, or with the results of his studies, the antiquarian architect is strongly tempted to modify them in accordance with his own system.

The suspicion may, however, arise that the interests of art and of historic science are not in this respect identical; and taking individual monuments separately, it must be admitted that doubts might be entertained on this point; but it is one which would not be for a moment maintained if a general view be taken of the whole country. Art would lose quite as much as history by a general recasting of ancient forms at the hands of modern architects. Alterations introduced into individual monuments on anything like a general system equally applicable to them all, must naturally result in weakening that individuality of aspect by which our churches are now distinguished. Under the pretext of approaching a kind of abstract Gothic, a sort of normal type, local forms and individual peculiarities are caused to disappear as being mistaken or defective.

What will be the effect of such a system on the varied architectures of France, and on that diversity of forms and types which we admire in the works of the Middle Ages? Applying without distinction of country or of individual peculiarity of design a previously conceived system of rules to all the buildings of one period, the restorers of our churches are labouring with great industry and at heavy expense to bring them all down to a uniform type; to rob them of their features, and to deprive us of all the traces of those variations and transformations of taste which form one of the most interesting peculiarities in the art.

Under this influence, enacted as it has been by the architects of one period and one school, Gothic architecture, naturally the most free and the most original of all the arts, is in danger of becoming as academic and as conventional as the pseudo-Classicism of Russia or England. For if we reflect that this method of restoration may perhaps be pursued for centuries, and remember that the more changes we permit ourselves the more our children will be likely to make—partly because it will become difficult for them to distinguish in our reconstructions the original forms from those which we have modified—we may well feel anxious for the fate of our noble Gothic monuments, and ask ourselves how much genuine Pointed architecture will one day be left.

Such a system of correction and alteration applied to the buildings of a past age would be fatal to any style, but to none can it be more so than to the Gothic style. Admitted that Gothic is by no means the confused, capricious, disorderly art which it was imagined to be by the first admirers of the works of the Middle Ages, it is none the less true that this architecture has never been able to fix itself in a definite manner, and to crystallise, so to speak, into definitive and unchangeable forms. Compared with Classic art, Gothic presents at every age something less fixed and less determined, and that not only in order of time, though it changed with every quarter of a century, but also in its correspondence with places, countries, and provinces. This doubles the difficulty of reducing Gothic art to any uniform standard, which shall be equally applicable in each district when works of restoration have to be carried out. Inferior to Antique art in absolute perfection, in precision of forms, and in architectural proportions, the art of the Middle Ages excels by its variety. Of this advantage it ought not to be deprived.

In the main our proceedings when we repair and rebuild do not differ so widely from those of other periods as we like to persuade ourselves that they do. As past centuries did, we also restore in our own taste. As was done in past centuries, we seek to correct, to embellish, and to improve; the principal difference being that we claim to do this in the taste of the original building, or, to use a hackneyed phrase, in the style of the period. Indeed, we should be ill advised to try anything else, for our own period has no architecture belonging to itself exclusively. A restoration of a church or a castle in its original style is an admirable undertaking with the crowd, and may even pass in the eye and the taste of an amateur. It is but a poor guarantee for the historian or the antiquary. Under this specious formula all kinds of variations and all imaginable caprices are possible, till a building might be entirely renewed without an original stone being allowed to remain. In certain respects our architectural make-believes are worse and more to be regretted than the hybrid restorations of past times; these last, executed in a taste that was unmistakably different from that of the original, had at least the merit of declaring themselves beyond the possibility of unfortunate mistakes. We, on the contrary, with our learned and fraudulent alterations, are preparing to lead the future into singular mistakes, and it is doubtful if future antiquaries will thank us for rendering it so difficult to recognise original monuments.

What do our architects do when, under the pretence of putting things to rights, they correct and change our old cathedrals? They have but two methods between which to choose—they may follow their own ideas, or they may copy similar portions of other buildings of the period. If the alterations are the design of the architect, they bear the impress of the taste and the education, and, as a consequence, of the period of the restorers. If, however, the correctors of historic monuments distrust their own inspection, they have no other resource than to copy other buildings more or less similar in style, and to borrow features from other monuments more or less removed in time and place. Buttresses copied from Rheims are, for example, applied to an apse in Paris, and the flying buttresses of Saint Louis are employed to uphold structures of the time of Philip Augustus! The method of applying to each building in course of restoration the best model of the period would promptly produce a sad impoverishment of our architectural wealth, leaving us only buildings compiled out of fragments more or less discordant with the original work and among themselves.

When will the great works of architecture inspire the same respect as those of painting and sculpture? No one restoring a fresco of the middle ages or an oil painting of the Renaissance would venture to correct it. Faults of perspective, of anatomy, of drawing, are rife enough among the works of the early masters, yet no one repaints the works of the Memmi or Orcagna. In early schools the defects are almost as interesting and noteworthy as the merits, and it is felt that the two are closely allied the one to the other.

It is indeed remarkable that the art with which we take the greatest liberties when we restore, is the one which in its own nature possesses a resource for repairing the ravages of time or violence: the only one which is capable of renewing its own youth and prolonging its own life indefinitely. Wisely maintained, a monumental building may last for ever, for new stones can be substituted in the place of those which decay, just as in the case of living animals nutriment supplies the place of lost tissues, but with the difference that in the case of buildings this continued possibility of repair has no limit. If an architectural work becomes mutilated or destroyed, the fault rests with the age which has allowed it to fall out of repair.

In the restoration of some classical monuments care ought to be taken to distinguish the restored portions from the original—sometimes by the use of a different material, at others by the absence of mouldings or polish.

In church restoration this is not necessary. What we call for is a scrupulous maintenance of existing features, which ordinarily are well enough preserved and distinctly enough marked for there to be no difficulty in reproducing them. We claim that the restorations of our cathedrals shall renew them without transforming them; that restoration, easily practised as it is in architecture, shall not be made the pretext for innovation. In a word, that, contemporary monuments being surrendered to the taste and invention of living architects, those of past ages shall be safe from their caprice or their fancy. So modest a wish would surely find no one to refuse it, and yet there are two modes in which our church restorers escape their obligations: two motives or pretexts all the more dangerous that they claim to coincide with the interests of the building and archaeology. These are, first, the necessity of consolidating the structure; and, secondly, the desire to replace everything in its primitive state, so, for example, to clear out from a thirteenth century church all the additions of subsequent centuries, and so to bring it back to what it was. And thus it happens that our cathedrals are demolished under pretence of maintaining them, and are transformed and disfigured in the name of antiquity.

The danger which Gothic buildings run owing to supposed structural necessities is the principal one because it is the most general. Construction is the weak point of the Middle Ages, here no doubt inferior to the ancients. Defective materials and hasty building have something to answer for in this respect, but so has the spirit of pointed architecture, which, in its search for height and lightness, seems at times to set structural laws at defiance. Bad materials and ill-built or ill-cared-for walls ought unquestionably to be replaced; but it is not so with regard to structural forms; to change these is to alter the nature of the whole building. A style like Gothic does not exist solely in the ends obtained—the means employed are part of its very essence. To alter buttresses, for example, under the pretence of securing the vaults which they support could only be excusable under the pressure of absolute necessity such as can but rarely occur. With the means at our disposal, we can surely rebuild structural features for which the architects of the Middle Ages were able to secure an existence of some five or six centuries. Even if they are somewhat faulty in design, what matters that if they have shown that they can endure so long?

The correction of features which it is asserted are structurally defective is one of the gravest dangers for our Gothic churches, a danger all the greater that, for reasons stated above, the greater part of them are destined to be almost rebuilt in the course of centuries.

The pretence of restoring churches to their primitive state is neither less specious nor less dangerous than that of improving their construction. For the most part there exists no evidence with regard to an ancient building, except its present state, and we shall best preserve the original plan by retaining it as it now is. And further, restoration to the original condition is frequently rendered absolutely impossible by the manner in which the buildings have been erected. The nave, the aisles, the choir, and the transepts frequently belong to different periods and more than one style. Where then shall the primitive type be sought, and how can the building be restored to a unity which it never possessed? Upon such a system consistency would require the destruction of every subsequent feature; lateral and apsidal chapels should be pulled down; and genuine stained windows of any late Gothic period or of the Renaissance should be replaced by modern counterfeits, imitating the style of the building. Even in this point of view that which is best for the interests of archaeology is perhaps a restoration which does not plume itself too much on archaeological learning, or at any rate one restrained by some degree of modesty or timidity. Great restorations on the asserted primitive plan have this other grave disadvantage that they are very expensive, and that even when an unmistakable departure from ancient lines has been corrected, the results are not always in proportion to the greatness of the sacrifice.

In the concluding portion of the article, which we have, for reasons given in our opening paragraphs, foreborne to include in our abridgement, the writer refers to the visit paid by the Architectural Association to Evreux, and to the wonder which they expressed when informed of the reconstruction there being taken in hand, and points out that in the power of public opinion England has a safeguard which France has not. Public opinion is not, however, fully enlightened on this subject, and while we admit that the strictures of M. LEROY-BEAULIEU are more strongly called for by the species of restoration usual in France than by anything that is commonly attempted here, we still feel that the truths he utters cannot be too strongly enforced or too jealously maintained. His article concludes by a renewed plea for the careful maintenance of public buildings under the care of architects living on the spot as in every respect more desirable than periods of almost total neglect followed by wholesale sweeping reconstructions. In this also we heartily agree with him.

THE CHANNEL TUNNEL.

IT has been agreed between Her Majesty's Government and the French Government that a Joint Commission of Representatives from each country should be appointed to consider and report upon the scheme for the construction of a submarine tunnel under the Channel, so far as the same may affect the interests of either Government.

The Lords Commissioners of Her Majesty's Treasury have accordingly nominated the following gentlemen to represent this country on the Commission, viz.:—Mr. C. M. Kennedy, of the Foreign Office; Captain Tyler, R.E., of the Board of Trade; and Mr. Horace Watson, Solicitor to the Office of Her Majesty's Woods, Forests, and Land Revenues.

DR. SCHLIEMANN'S DISCOVERIES.*—II.

WE have already mentioned that Dr. Schliemann had at one time a preconceived notion in his mind as to the site of Homeric Troy. He supposed it was to be found in the lowest or fifth stratum of the *débris* on the Hill of Hissarlik and immediately upon the rocky substratum. In the course of time he became convinced that he was mistaken, but as a prejudice, however trivial, is found to be injurious to any experiment, we may be certain that the existence of such a notion must have affected the exploration, by leading him to set, at first, an insufficient value upon part of the remains which were found in the fourth or Trojan stratum. Dr. Schliemann, for instance, acknowledges that during 1871 and 1872 he destroyed a large portion of Troy by demolishing all the house-walls that rose to the higher strata, and because they obstructed his way. But during 1873, he concluded that the site of the city must lie at no greater depth than from 23 to 33 feet below the surface, and the excavations were then conducted so as to reveal as much as possible of the ruins in this stratum. The result is so far complete, that Dr. Schliemann is of opinion that he has already excavated two-thirds of the area of the entire city, and its best part, with the remains of the Great Tower, the Scean Gate, the City Wall, the Palace of Priam, the Altar of the Ilian Athena, &c. But if this is the Homeric Troy that has been unearthed, what a shock its dimensions must give to all whose imagination had been excited by the poet's descriptions. "The Iliad and the Odyssey," says Mr. Grote, "exhibit but too frequently a hopeless diversity when confronted with the narratives of the logographers," and, if Dr. Schliemann's plans may be accepted, it may now be added that there is no less a diversity between the poems and the topographers. There are many scenes in the Iliad which owe some of their effect to the supposition that they were transacted in a city of large size, and every reader believes that Troy's ample-streeted city was of a magnitude worthy to attract all the hosts of Greece. But Dr. Schliemann's plans have dispelled another of the beautiful illusions that outlasted generations. The outer wall of Troy, as laid down by him, forms an irregular polygon, the longest side of which is not 200 feet, and the extreme length within the walls is but 450 feet. Strange as it may sound, Priam's many-gated city would thus occupy no more ground than the buildings of the British Museum, and it might readily be enclosed within the railings of either Grosvenor or Belgrave Square. "I assert most positively," says Dr. Schliemann, "that Troy was limited to the small surface of this hill; that its area is accurately marked by its great surrounding wall, laid open by me in many places; that the city had no Acropolis, and that the Pergamus is a fine invention of Homer; and further, that the area of Troy in post-Trojan times down to the Greek settlements was only increased so far as the hill was enlarged by the *débris* that was thrown down, but that the Ilium of the Greek colony had a much larger extent at the time of its foundation." And in another part he adds, "I now most emphatically declare that the city of Priam cannot have extended on any one side beyond the primæval plateau of this fortress, the circumference of which is indicated to the south and south-west by the Great Tower and the Scean Gate, and to the north-west, north-east, and east by the surrounding wall of Troy. The city was so strongly fortified by nature on the north side, that the wall there consisted only of large blocks of stone, loosely piled one upon another in the form of a wall. . . . I am extremely disappointed at being obliged to give so small a plan of Troy; nay, I had wished to be able to make it a thousand times larger, but I value truth above everything, and I rejoice that my three years' excavations have laid open the Homeric Troy, even though on a diminished scale, and that I have proved the Iliad to be based on real facts." Dr. Schliemann supposes that the houses of Troy may have been very high, with several storeys, and there was likely to be no law against overcrowding in those days; but withal he cannot estimate the number of inhabitants at more than 5,000 and the soldiers at 500. He, however, tries to explain the existence of a Trojan army by saying that the city "could always raise a considerable army from among its subjects, and as it was rich and powerful, it could obtain mercenaries from all quarters."

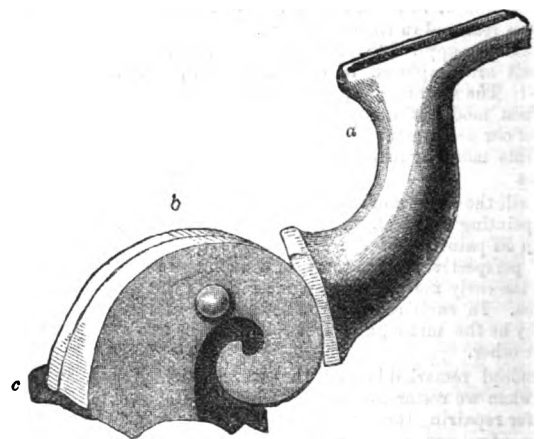
These conclusions, however, should be accepted with caution. Sceptical as may be the age, and, although we may look down upon past ages, scholars who have hitherto had some little faith in Homer as an historian will hardly believe without misgiving that Troy could have been so circumscribed, or that the Pergamus, which stands out so prominently amidst scenes in the Iliad, was after all but the mere "airy nothing" of a poet, to which he gave a habitation and a name. The suggestion which is offered by Mr. Philip Smith, the editor, in the preface to the English translation, seems to be far more probable. He says, "As the mounds opened by Layard and his fellow-labourers contained only the 'royal quarters' which towered above the rude buildings of cities, the magnitude of which is attested by abundant proof, so it is reasonable to believe that the ruins at Hissarlik are those of the royal quarter, the only really permanent part of the city, built on the hill capping the lower plateau, which lifted the huts of the common people above the marshes and inundations of the Scamander

and the Simois. In both cases the fragile dwellings of the multitude have perished; and the pottery and other remains, which were left on the surface of the plateau of Ilium, would naturally be cleared away by the succeeding settlers. Instead, therefore, of supposing with Schliemann that Homer's poetical imagination invented the "Pergamus," we would rather say that he exalted the mean dwellings that clustered about the Pergamus into the "well-built city," with her "wide streets."

It would not be fair to Dr. Schliemann to let the supposition arise that he is to be ranked with those who maintain that Homer relied mainly on his imagination when describing objects, and that even if there had been such a city as Troy that the poet in reality knew nothing of its size, construction, or situation. Testing the Iliad by his own experience the explorer considers that there can be no doubt that Homer visited Troy, so well informed are the allusions to the topography and the climatic conditions of the Troad, but that visit he considers must have been long subsequent to the siege. There are few higher authorities on all that relates to the literature of Homer than Mr. Gladstone; and in a paper in the "Oxford Essays" for 1855 he expresses a belief that the poems may have been sung to the very men who were engaged in the war, or at least to their children. But Dr. Schliemann, on the other hand, holds that the poet was not born until centuries after, and that then the ruins of the ill-fated city were buried beneath a mass of *débris*. "Homer made no excavations so as to bring those remains to light," he relied on the traditions that had been preserved among the settlers at Hissarlik, and it was therefore pardonable if he sometimes nodded in describing Troy—as, for instance, when he made Hector traverse the wide streets of a mighty city to reach that Scean Gate which, according to the exploration, almost formed one of the boundaries of the palace.

But it is time for us to say something about the discoveries in this part of the excavations. Nearly all the walls of houses which were found in the Trojan stratum were formed of what had been mere sun-dried bricks, but which, however, through some conflagration, were partly burnt. The foundations and thresholds of the houses were of large stones. "The Royal Palace and two small buildings in the depths of the Temple of Athena, as well as the Great Tower of Ilium, the Scean Gate, and the great enclosing wall, are generally composed of unhewn stones joined with earth, the less rough face of the stones being turned to the outside; so that the walls have a tolerably smooth appearance." The masonry of the Scean Gate appeared as fresh as if it had been recently erected, but the stone slabs which formed part of a causeway leading from the gate crumbled away after a few days' exposure to the air, which, Dr. Schliemann believes, is a testimony to the conflagration of the town. The walls of the house which was discovered directly below the Greek Temple of Athena were in parts 10 feet high, and fragments of a lining of clay painted yellow or white still remained attached to them. The thickness of the walls varied; one was 48½ inches thick, another 25½ inches, a third 19½ inches. In another room there was a floor formed of slabs of limestone, with the smooth side upwards; the remaining rooms must have had timber floors. A semi-circular cellar was also discovered above the house, the diameter being 3½ feet. It was built of chalk and stones, the interior still having a glossy appearance, as if it had been varnished or glazed. Within it were fragments of terra-cotta and some small vases. "This very ancient house," says Dr. Schliemann, "with its small rooms, as it stands, is very like a Pompeian house; it cannot, indeed, be at all compared with the houses of Pompeii in regard to architecture or decoration, but it surpasses them in peculiarity."

Near this house two skeletons were found with copper helmets on their heads. Both helmets were broken, but the upper portions are nearly perfect, and they have a special interest, as they, at least, directly illustrate Homer, in comprising the *ᾠδὸς* or ridge for holding the horsehair plume which is so often referred to in the Iliad as "nodding horribly." The form, it will be seen from the woodcut,* is very fine, and it must be regretted that the remainder of one of the helmets is not forthcoming. No such plumed helmets, as the editor of the translation remarks, are found among the remains of pre-historic barbarous races.



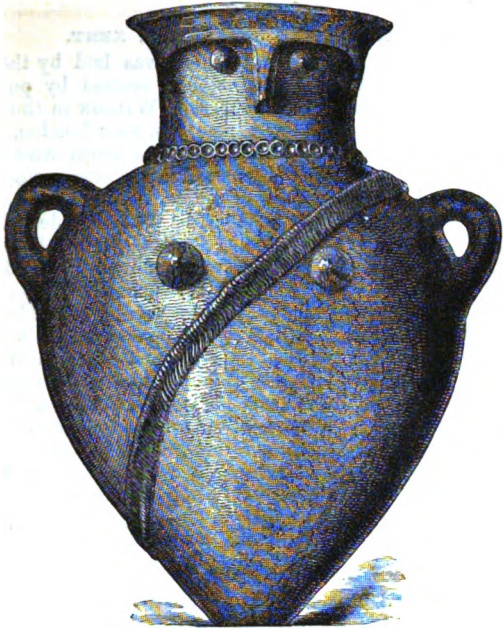
(a) The upper, and (b) lower pieces of a Trojan helmet crest placed together. (c). A small piece of the helmet remains adhering to the lower part of the crest. A pin fastened to the front of the part (b) goes into the hollow base of (a) and supports it.

The pottery which was found in Troy is remarkable both for design and workmanship, and when compared with that belonging to the upper strata, is evidence of the truth of Dr. Schliemann's conclusion that at Hissarlik

* Troy and its Remains: a Narrative of Researches and Discoveries made on the Site of Ilium and in the Trojan Plain. By Dr. Henry Schliemann. Translated with the Author's sanction. Edited by Philip Smith, B.A. With Map, Plan, Views, and Cuts representing 500 Objects of Antiquity discovered on the site. London: John Murray.

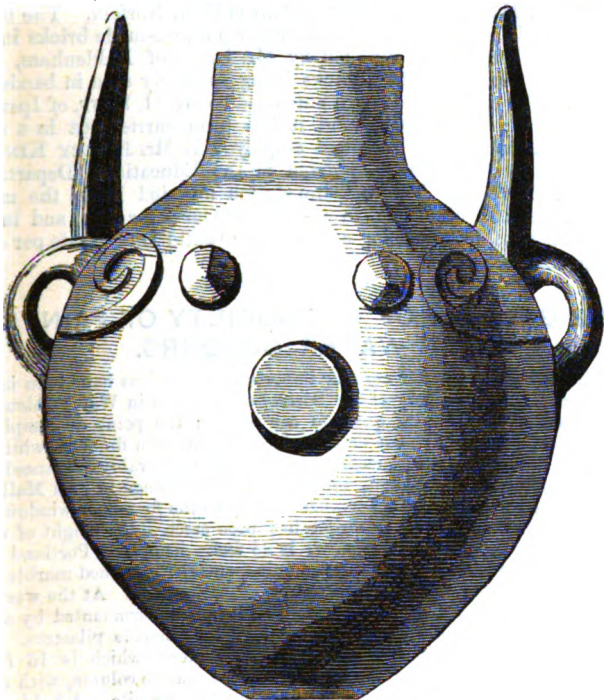
* We are indebted to Mr. Murray for the use of the woodcuts which appear in this article.

the indications of a higher civilisation seem to increase in proportion to the depth. Here is a vase that was found in the Palace of Priam. It is



24½ inches high, is a brilliant dark red or brown in colour, has the owl face and breasts and helmet of the tutelary goddess of Ilium, as well as a necklace and cincture beautifully worked. There is, however, a difference between it and the other vases supposed to be symbolic of Athena, inasmuch as it has two handles in place of the uplifted arms or wings. The vase was broken in pieces in removing it from the debris, but it has been carefully put together since.

Of a different form is the second vase, which was found among the ruins of the Great Tower of Troy. It also has handles, but combined with the wings, and is symbolic of Athena.

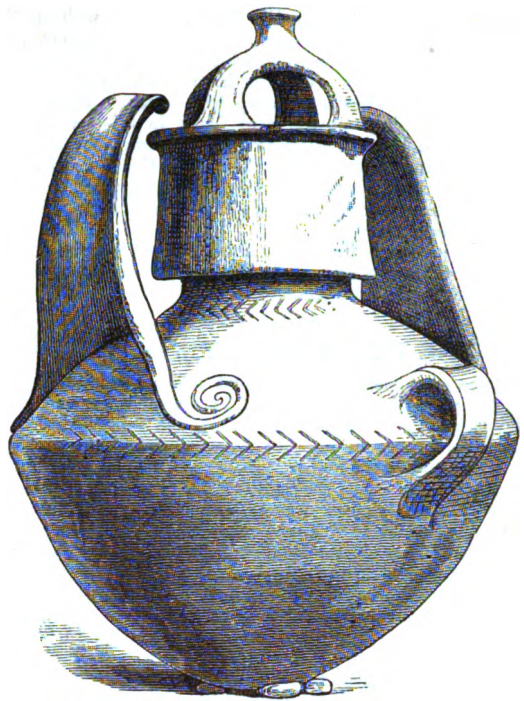


But the largest vase of its type is the third we give, which also is from the Palace of Priam. The crown-shaped cover is not without interest in the history of the exploration, for when Dr. Schliemann at first met with objects of this form, he supposed they were drinking cups. Afterwards their purpose was discovered, but they may have been used for cups as well as for vase covers. (See Illustration in next column).

In another part of the ruins of the stratum a wine cellar or magazine was revealed. It contained nine immense four-handled earthen jars of various forms. Each was over 60 inches high and 48 inches in the widest part, tapering almost to a point, the mouths were from 29½ to 35½ inches diameter, and the material was 2½ inches thick.

Among the ordinary examples of metal work were many copper nails, sometimes as long as five inches, a few lances and battle axes of elegant workmanship. There was also a rather unusual discovery in the form of two lumps of lead, each weighing two pounds, one round and the other concave. Three bracelets formed of silver wire were found in the ashes of one of the houses; with them were an ornament and ear-ring also of silver wire, a gold ear-ring with three rows of small stars on each side, as well as other ornaments.

But all other examples of metal work found in the excavations were thrown into the shade by the discovery of the "Treasure of Priam," which



has already become famous, although at first there were some doubts as to its genuineness. We have not space here, nor, indeed, is it necessary to tell again the well-known story of how Dr. Schliemann himself discerned the treasure, how, fearful of robbery, he sent his men away from the works, and then at the risk of his life removed the different articles from under an overhanging fortification, his wife packing them in her shawl. We can only catalogue, as it were, what was found. There was, first, a copper or bronze oval shield, its greater diameter being somewhat less than 20 inches. It had a rim around 1½ inches high, and a central boss 2½ inches high and 4½ inches in diameter. The small dimensions of this shield are worth noting. Nowhere does Homer appear to be more precise than in his descriptions of the shields of both Greeks and Trojans. It has always been supposed, from what is said of the warriors bearing their shields before them as towers, that they must have been of the largest size and ponderous; in the sixth book Hector's is shown as being almost sufficient to cover his entire body:—

Then fair-helm'd Hector turned to Troy, and, as he trode the field,
The black bull's hide, that at his back, he wore about his shield,
In the extreme circumference, was with his gait so rock'd.
That, being large, it both at once his neck and ankles knock'd.

The shield found at Hissarlik is not larger than a Highland targe, and there is no way of reconciling it with the Homeric descriptions, unless we suppose that it merely formed the central part of a Trojan shield. The next discoveries were also of copper, viz., a caldron with two horizontal handles; a curious plate, 17½ inches long, with two immovable wheels and an axletree at one end, which is supposed to have formed in some way the fastening of a treasure chest; and a copper vase 5½ inches high.

Then came some vessels of gold—a globular bottle of the finest metal, nearly 6 inches high, and with indications of a zigzag pattern on part of it; a cup 3½ inches high and 3 inches broad; another, boat-shaped, 3½ inches high, 7½ inches long, and 7½ inches broad, having two handles and two mouths for drinking from. This last vessel is of cast gold, the large handles (which are not solid) being fused on to it; the former cup and the bottle have been wrought with the hammer. Another cup, over 3 inches high, was made of gold with an alloy of about 20 per cent. of silver. Six flat pieces of silver, somewhat in the form of knife blades, are supposed to have been Homeric talents. There were besides, of silver, five vases, a goblet, and a flat cup.

In one of the silver vases were "two splendid gold diadems, a fillet, and four beautiful gold earrings of most exquisite workmanship; upon these lay 56 gold earrings of exceedingly curious form, and 8,750 small gold rings, perforated prisms and dice, gold buttons and similar jewels, which obviously belonged to other ornaments; then followed six gold bracelets." The latter were intended for wrists so small that a girl of ten would have difficulty in putting them on.

Near these objects were several lances of copper, ranging from nearly 7 to over 12 inches in length, and at the lower end of each was a hole through which to fasten the lance to the shaft. "The Trojan lances," says Dr. Schliemann, "were quite different from those of the Greeks and Romans; for the latter stuck the shaft into the lance-head, the former fastened the head into the shaft." Some battle axes of copper were found, the largest weighing about 3 lbs., as well as daggers and two-edged knives. The metal of which the weapons were made has been analysed, and was found in most instances to be of pure copper, wrought with the hammer. Several other reliques of various kinds were found in this stratum, but for a description of them we must refer our readers to Dr. Schliemann's book.

Want of space will also prevent us from devoting more than a few lines to the stratum under Homeric Troy. The remains of the walls at this depth show that the houses were very large and built of stones, large and small, joined with earth. Dr. Schliemann considers that the people who lived then on Hissarlik must have been of Aryan race, to judge by the symbols found on the pottery, and the terra cottas he found are described

as being of a "more excellent quality than any met with in the upper strata. They are of a brilliant black, red, or brown colour, ornamented with patterns cut and filled with a white substance; the flat cups have horizontal rings on two sides; the vases have generally two perpendicular rings on each side for hanging them up with cords." Some small terra cotta bowls, 1½ inches in diameter, were found in this stratum, which are conjectured to have been used as lamps. No fragment of a lamp was found in the overlying strata, unless among the Greek *debris*. As low as 49 feet a piece of a dark grey vessel was discovered, which, both on inside and outside, was decorated with engraved horizontal and undulating lines, arranged in an effective way.

We have thus indicated the more remarkable discoveries of Dr. Schliemann, and we conclude by again commending the careful and ably edited translation of his book to our readers.

THE ROYAL COURT THEATRE.

NOW that the excitement of a first night under a first management, and of a first piece from a new author, has in some degree subsided, now that the lavish praise of one class of journals has been counterbalanced by the equally lavish censure of another class, we may venture to inquire the reason for one or two of the artistic things to be seen at the Court Theatre. To begin with what is called the auditorium. The new decoration—toned white and gold, with crimson drapery, and Mr. C. Eastlake's little sprig paper, as at the Prince of Wales's—is inoffensive and cheerful, but why should the arms in front of the Royal box be placed on an irregularly cut mount of dark stuff against the raised carton pierre work of the box-front? It would have been so easy, and would have looked so well, to have had it mounted on a flat central panel, or even on an ante-pendium of velvet, on which, by the way, it might have been worked either in embroidery or appliqué-work.

Then, too, is the royalty of the Sloane Square Theatre something to insist on that we have the Royal arms of England quartering Scotland and Ireland (!), shown as an embroidery on the cut-velvet Venetian 16th century curtain that closes the doorway of the council chamber in the Doge's palace—the subject of the act-drop? This doorway is much exaggerated in size, and fills up nearly the entire height of the proscenium. The marble pillars, the curtain, and Mr. Prinsep's guard holding a very long pike, look new and much as they would have done in fact; but why should the laws of perspective be outraged? and why should the Renaissance tapestry on the wall each side of the doorway look faded and worn, as if four centuries had passed away since it was worked?

And now turn to the four set-scenes of Mr. Coghlan's modern drama, named after its heroine, "Lady Flora." The first is the breakfast-room of Fairleigh, a nobleman's country house. Every architect must feel surprised that the nobleman should call it his *own* room, but that is a trifle. This interior shows three sides of—say an Elizabethan house; at the back is a dark carved oak fire-place, in which a large fire burns, for it is the hunting season, and two noblemen in red coats and top boots are at breakfast; on one side are two windows opening outwards to the ground, through one of which the red-coats go out to their horses; on the other side a plain wall, and between it and the fire-place, a wide doorway, closed with curtains only. There are some brass dishes, a brass coal-basket, and some blue-and-white china round about the fire-place, and between the windows a looking-glass much too small, considering that some of Lord Melton's action is connected with it.

The second act introduces us somehow to early autumn and out-door sketching. We were hunting in the last, so perhaps Lady Flora or her lover will add to their already copious stock of sermons one explanatory of the reversal of the seasons? A foreground of gnarled oaks, rich with autumnal tints, the trunk of one that has been lately felled, and a stile, are the materials we find on the top of a wooded hill called "Clumbers." The view over the stile and hedge exhibits an undulating country (is there not rather too much arable), a village, detached houses, and to the left the magnificent classic mansion of Lady Flora, with its woods, and lawns, and lake.

A-propos of this scene, why does Miss Madge Robertson make such a funny toddle in her walk and say meaning things with so very much meaning? Does a Duke, even though French, go about his woods in autumn (or the hunting season), when roaring fires are necessary in the house, dressed in frock coat, hat, &c., just as if he had turned out of the Tuilleries on a fine afternoon in June?

The third act shows us the lawn, and, to the left, the terrace and exterior of Fairleigh, as also a sun-dial, mounted on steps, from which Lady Flora and her talking lover preach. Here again we may ask why does the lawn run into the woods without any barrier, and why do people prowling about a tree-girt lawn at 7-30 P.M. in the hunting season, and when it is cold enough to have roaring fires? As a piece of figure composition a rather tall and thin lady on steps behind a sun-dial may possibly be made artistic, but not as it is done at the Court Theatre, and would it not be better for Oxford tutors to eschew spouting French poetry until they can give some approximation to the true accent? An artistic and quite unstrained effect is attained by Mr. Clayton and Miss Fawcitt on the terrace steps.

The last scene represents the drawing-room at Fairleigh, before dinner; the lamps are lighted, the ladies, strange to say, are playing chess, and a small oval looking-glass is leaning on the mantelshelf, as if temporarily placed for someone to shave by. Outside a wide curtained door the wall of a corridor is seen in a very rickety condition. There is a solitary dark bell-rope at the side of the fire-place, strongly relieved by a wall that looks as if it had been whitewashed, and over the window are some dowdy-looking curtains, quite out of keeping with the portieres. Why need this scene have been so bad?

With the acting we have little to do. Mr. Hare, Mr. Kelly, and Miss Fawcitt, after the first act, compelled attention, notably Mr. Kelly at the commencement of the first and end of the third acts. But why do our author and his actors ignore the manners and habits of county people in this attempt to represent high life in the country?

ILLUSTRATIONS.

CHRIST CHURCH, BECKENHAM, KENT.

THIS church, the chief stone of which was laid by the Earl of SHAFTESBURY on the 3rd inst., is being erected by public subscription, upon land given by Mr. C. LEA WILSON in the centre of the rapidly increasing village of Beckenham, near London. It will consist of a nave with north and south aisles, a south-western tower and spire, a south porch, and a chancel with organ chamber and vestry. The nave will have a clear width of 30 feet, that of the chancel being 24 feet, and each aisle being 12 feet wide. The total length clear of the walls is 111 feet. The height of the nave will be 54 feet, of the chancel 42 feet, and of the spire 117 feet 6 inches.

The chief materials used are stock bricks faced both outside and inside with white Suffolk bricks, with strings of Malm bricks, and Bath stone for the masonry. Each of the nave columns will be in a single piece of the dark polished granite from Shap, in Westmoreland. Pitch pine, yellow deal, and Baltic timber will be used in the seating and roofs; the floors will be laid with tiles, and the roofs covered with slates. The nave will contain seats for 715 persons, with ample passage-ways. The contract price is 5,826*l*.

The works are being carried out by Messrs. E. B. GAMMON & SONS, of Lambeth, from the designs and under the superintendence of Messrs. BLASHILL & HAYWOOD, of 10 Old Jewry Chambers, London.

MANSION HOUSE AT COLTBRIDGE, MURRAYFIELD, EDINBURGH.

THIS building, which is now far advanced, occupies a very commanding situation, and overlooks nearly the whole of the western part of the city. The view from the prospect tower, which is in the upper part of the main tower, is very extensive, and towards the north-east stretches far down the Frith of Forth. The building is executed in fine white Dunmore stone. The architect is Mr. T. B. McFADZEN, Edinburgh, under whose personal superintendence the works are being carried out.

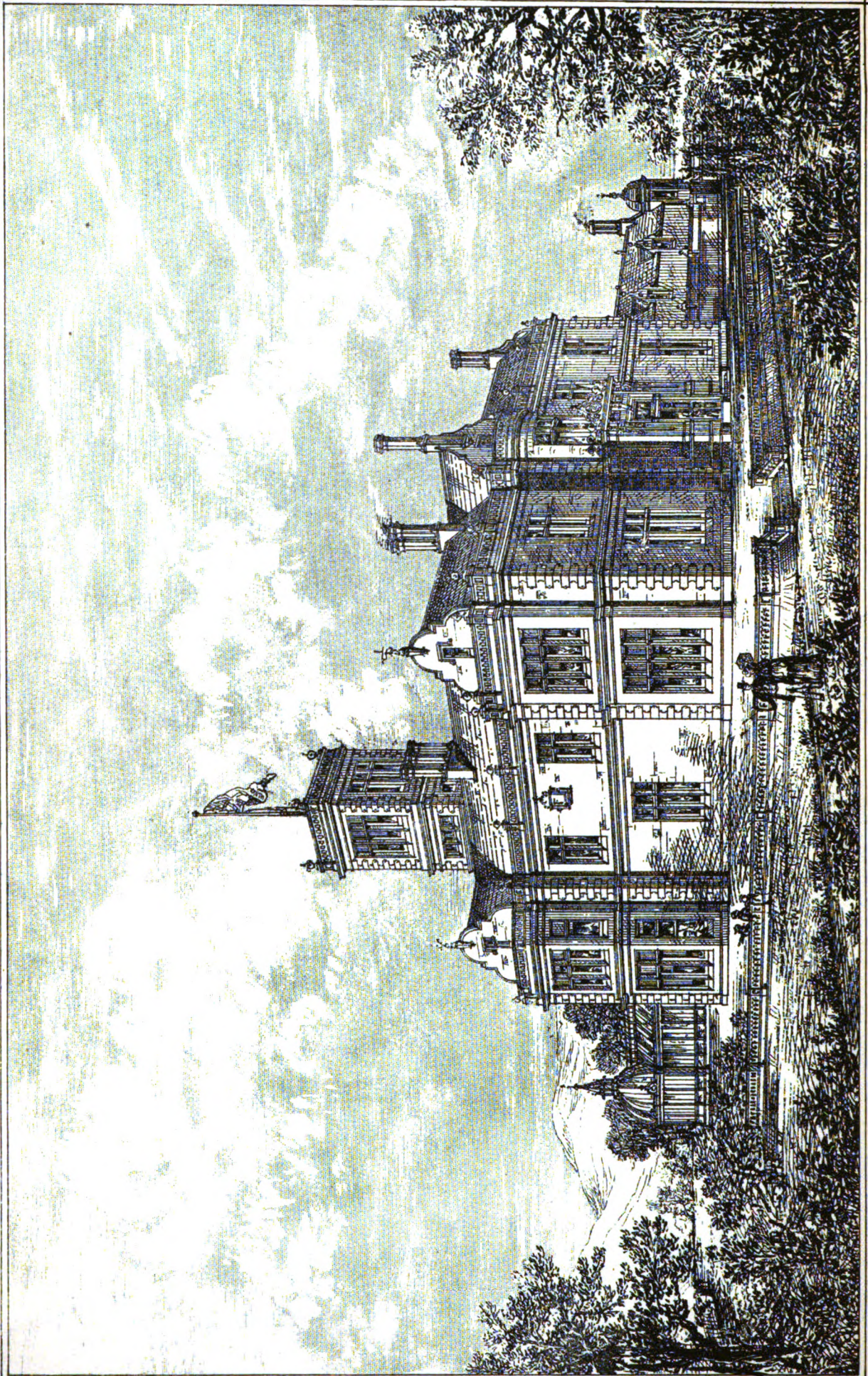
GRUNDISBURGH-CUM-BURGH BOARD SCHOOLS.

THE foundation stone of these schools was laid in November last year by Mr. ROBERT T. GURDON, of Litton Hall, Norfolk. The buildings are built of red bricks, with thinner purpose-made bricks in the arches and bands, &c., supplied by Mr. LUFF, of Tuddenham, with Bath stone dressings, black bricks being sparingly used in bands and arches. The erection has been entrusted to Mr. H. LUFF, of Ipswich, the contract being 1,361*l*, and it has been carried out in a satisfactory manner. The architect employed is Mr. RIDLEY KIRK, of Ipswich, the plans being approved by the Educational Department without alteration. The accommodation afforded is, in the mixed school, for 108 children; in the class-rooms, for 54; and in the infants' school, for 27, being a total of 189 children, the rate per child being a little over 7*l*.

THE GALLERY OF THE SOCIETY OF PAINTERS IN WATER COLOURS.

DURING the last few months important alterations have been in progress at the Gallery of the Society of Painters in Water Colours, in Pall Mall. The works in question are now on the point of completion, those in connection with the exterior having just been finished, whilst the internal decorations and ornamentation are considerably advanced, and will be completed in about a fortnight. The frontage in Pall Mall, containing the ground and a mezzanine floor up to the first-floor windows, has been removed, and a new elevation has been erected, the height of which, to the foot of the first-floor windows, is 25 feet. This is in Portland stone, carved, with polished red granite columns, and richly-veined marble piers. The building is approached by a flight of three steps. At the west side, on the ground floor, there is an entrance with piers, surmounted by a pediment in carved stone, supported on each side by marble pilasters. Eastward of this is the main entrance to the gallery, which is 16 feet in width. In the centre of this is a polished red granite column, with carved capital, and on either side piers, also in polished granite. A bold cornice rests upon the columns and piers, whilst above this, carried up to a height of about 6 feet, is a semicircular arch, in the centre of which is a tablet in black polished marble, on which is inscribed in gilt letters, "The Society of Painters in Water Colours." This is surrounded by a framework of carved stone, and is supported on either side by figures reclining, ornamental scroll-work being carried round the outside of the archway. Three bold sculptural figures, of large dimensions, resting on pedestals above the ground-floor columns and piers, support a massive projecting balcony and balustrade, which complete the new elevation. The main entrance from Pall Mall leads into an outer hall, and thence into a vestibule, about 16 feet square, the floor of which is laid in mosaics of varied patterns and colours. From the floor of the vestibule rise two columns with pilasters on the walls opposite, which are intended to be decorated with various art subjects. A circular stone staircase, 6 feet in width, leads up into the gallery above the vestibule, the floor of which is also laid in mosaics, uniform with the floor below. The walls of this gallery are also divided into panels, to be filled in with paintings. The ceiling is moulded and coloured. From this gallery the main gallery of the society itself in the upper part of the building is approached. The architect is Mr. F. P. Cockerell, and the contractors, Messrs. Jackson and Shaw. The carving and sculpture was executed by an Italian sculptor brought over for the purpose.





MANSION AT COLT BRIDGE, MURRAY FIELD, EDINBURGH.
T. B. Mc FADZEN, ARCHT.

Printed by W. H. & Co. London, E.C.

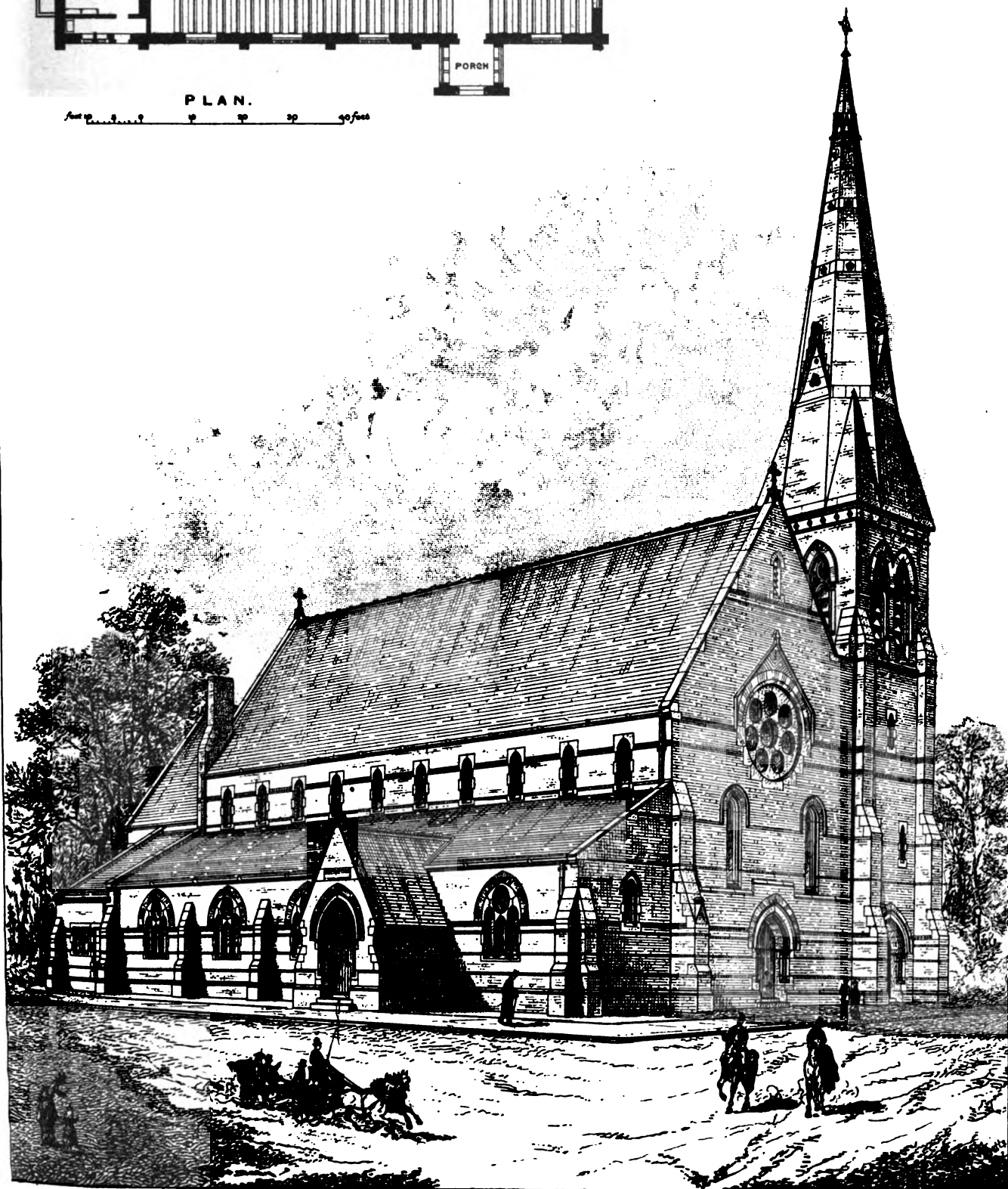
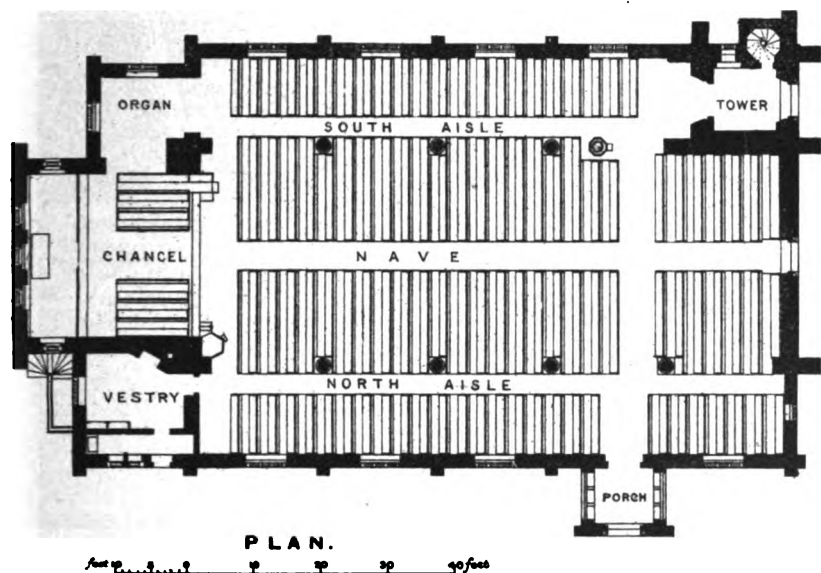




Printed by W.W. Symonds & Co. London, E.C.

INTERIOR OF CHRIST CHURCH, BECKENHAM.

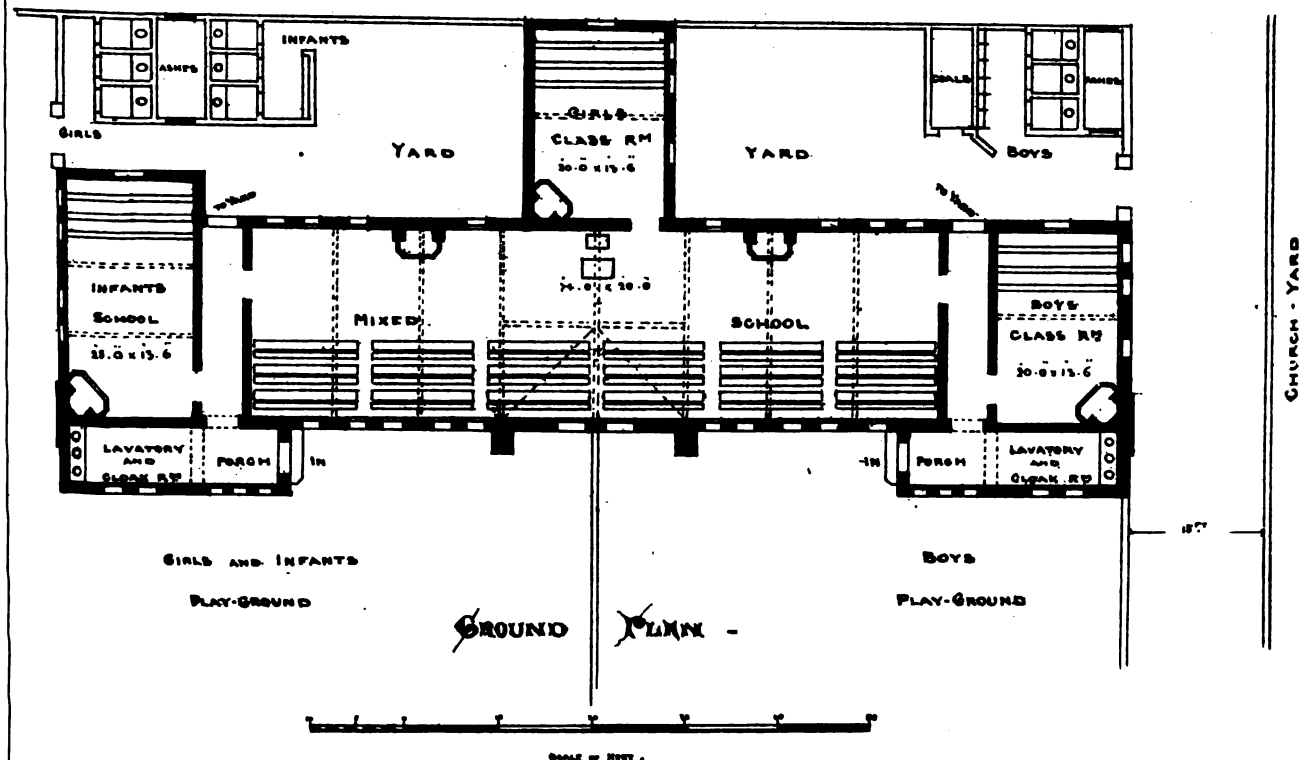
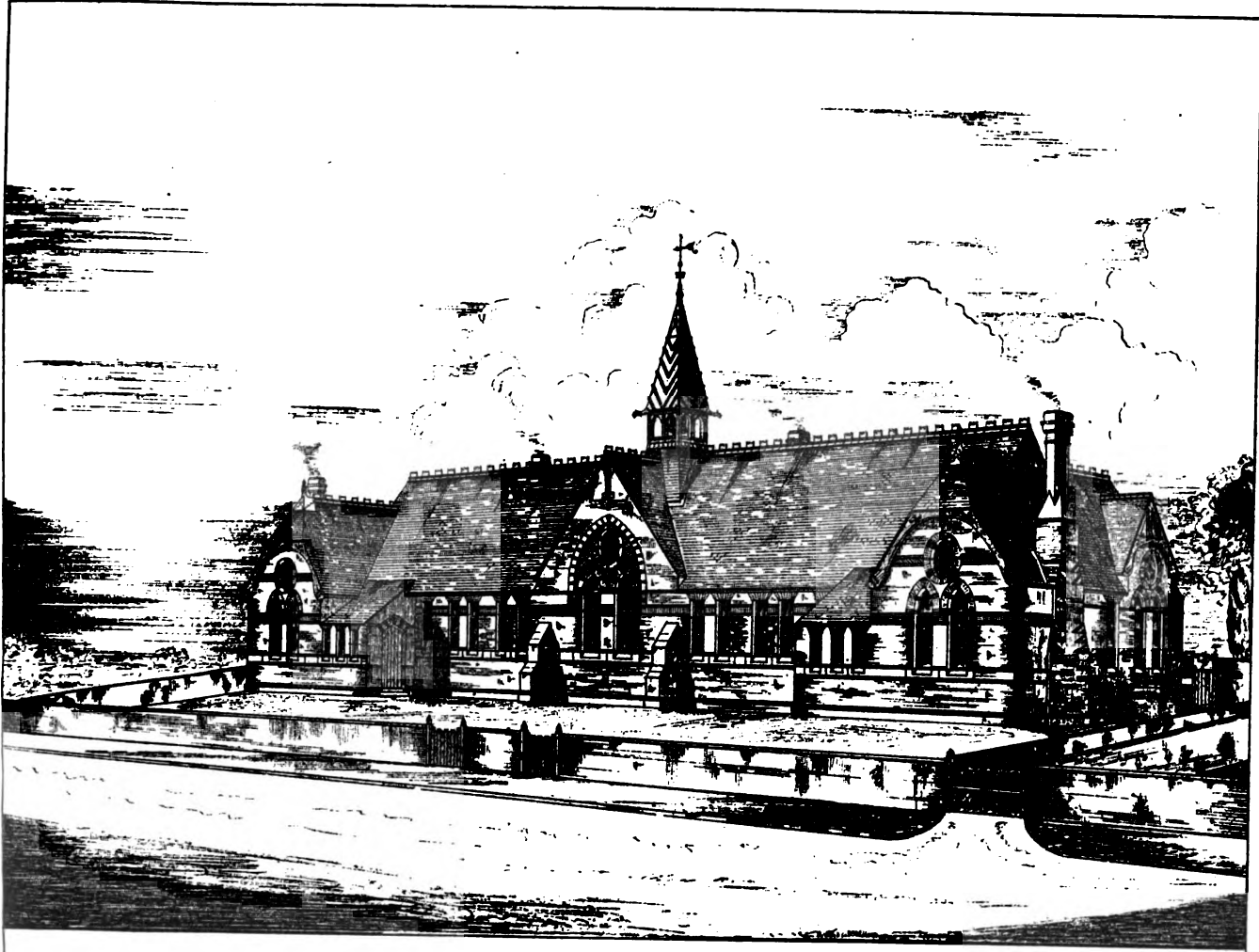
MESSRS BLASHILL & HAYWOOD, ARCHTS



Engraved by W.W. Spangue & Co. London, E.C.

EXTERIOR OF CHRIST CHURCH, BECKENHAM.
MESS^{RS} BLASHILL & HAYWOOD, ARCHT^S.





GRANDISBURGH SCHOOLS, SUFFOLK.
RIDLEY KING, ARCHT.

Printed by W.W. Symonds & Co. London E.C.



THE QUILTER COLLECTION.

FROM the exceptional interest attached to the sale of the Quilter Collection we have been induced (as formerly, in the case of the Gillott Collection), to give a full list of the pictures with the prices given for them last week at Messrs. Christie, Manson & Woods' rooms.

First Day's Sale. Thursday, April 8, 1875.

DAVID COX.

Pen and Ink Etchings.

- | | |
|---|---|
| 1. Cottage, 6 <i>l.</i> 6 <i>s.</i> | 5. Barge and Boat, 12 <i>l.</i> 12 <i>s.</i> |
| 2. Trees and Sheep, 21 <i>l.</i> | 6. A Homestead, 8 <i>l.</i> 8 <i>s.</i> |
| 3. Landscape, and Man on Horse, 12 <i>l.</i> 12 <i>s.</i> | 7. Two Studies of Trees, Bolton Park (charcoal, dated "4 Sep., 1844"), 6 <i>l.</i> 16 <i>s.</i> |
| 4. Cattle passing over Bridge, 11 <i>l.</i> 11 <i>s.</i> | |

Drawings in Sepia.

- | | |
|--|--|
| 8. Trees and Mountains, 6 <i>l.</i> 6 <i>s.</i> | 17. Haddon Hall, 16 <i>l.</i> 5 <i>s.</i> 6 <i>d.</i> |
| 9. Atherstone, Warwick, 10 <i>l.</i> 10 <i>s.</i> | 18. Chatsworth Park, 7 <i>l.</i> 17 <i>s.</i> 6 <i>d.</i> |
| 10. A Lane Scene, Bettws-y-Coed, 26 <i>l.</i> 15 <i>s.</i> 6 <i>d.</i> | 19. A Sketch, 10 <i>l.</i> 10 <i>s.</i> |
| 11. Hardwick Hall, 15 <i>l.</i> 15 <i>s.</i> | 20. A Study of Rocks, 8 <i>l.</i> 18 <i>s.</i> 6 <i>d.</i> |
| 12. Lake Ogwen, 31 <i>l.</i> 10 <i>s.</i> | 21. St. James's Palace, 10 <i>l.</i> 10 <i>s.</i> |
| 13. Feasting, North Wales, 13 <i>l.</i> 13 <i>s.</i> | 22. Greenwich Hospital, 8 <i>l.</i> 18 <i>s.</i> 6 <i>d.</i> |
| 14. Haddon Hall, 27 <i>l.</i> 16 <i>s.</i> 6 <i>d.</i> | 23. Tal-y-Llyn, 32 <i>l.</i> 11 <i>s.</i> |
| 15. Dieppe, 9 <i>l.</i> 19 <i>s.</i> 6 <i>d.</i> | 24. Rowsley Mill, 12 <i>l.</i> 12 <i>s.</i> |
| 16. Welsh Scenery, a sketch, 9 <i>l.</i> 9 <i>s.</i> | 25. Luggers at Sea, 9 <i>l.</i> 19 <i>s.</i> 6 <i>d.</i> |
| | 26. Isleworth, 10 <i>l.</i> 10 <i>s.</i> |

Water-Colour Drawings.

28. Playing at Dice, 5*l.* 15*s.* 6*d.*
29. A Spanish Gentleman, after Cotman, 5*l.* 5*s.*
30. Birmingham Horse Fair, International Exhibition, 1862, 136*l.* 10*s.*
31. A Ford on the Lledr, 74*l.* 11*s.*
32. A View on the Llugwy, 39*l.* 18*s.*
33. Bolton Abbey, evening, 45*l.*
34. Moel Siabod, 42*l.*
35. On the River Machno, 42*l.*
36. A View of Bolton Abbey, 74*l.* 11*s.*
37. Rocks in Dolywdellan Valley, 47*l.* 5*s.*
38. Barden Tower, from the meadow, 48*l.* 6*s.*
39. Bettws-y-Coed Mill, 58*l.* 16*s.*
40. Barden Tower, 43*l.* 1*s.*
41. The Valley of the Lledr, 53*l.* 11*s.*
42. A Heath Scene, with sheep, night (1854), 38*l.* 17*s.*
43. Knareborough Castle, purchased at the artist's sale, 23*l.* 2*s.*
44. Bridgnorth Bridge, 101*l.* 17*s.*
45. The Old Oak of Sherwood Forest, 220*l.* 10*s.*
46. Beaver Pool on the Conway, near Bettws-y-Coed, 53*l.* 11*s.*
47. A Corn Field, with a girl crossing a bridge, 93*l.* 9*s.*
48. Scotch Mountains, with a sportsman, 99*l.* 15*s.*
49. Battersea Mill, with boats and figures, 95*l.* 11*s.*
50. A Coast Scene, mackerel sky, 126*l.*
51. A Wood Scene, with a man on horseback, 105*l.*
52. Kenilworth, with a man and dog, 99*l.* 15*s.*
53. Teignmouth, engraved for the Art Union, 1869, 98*l.* 14*s.*
54. Cattle, made by the artist after visiting the Louvre, 53*l.* 11*s.*
55. Battersea Mill, 74*l.* 11*s.*
56. Falls of the Ogwen, engraved in Roscoe's "North Wales," 115*l.* 10*s.*
57. A Hayfield, with white horse, 115*l.* 10*s.*
58. Barden Tower, 74*l.* 11*s.*
59. Putney Bridge, 72*l.* 9*s.*
60. Fort Rouge, Calais, engraved for the Art Union, 1871, 136*l.* 10*s.*
61. On the River Ure, Yorkshire (1831), 84*l.*
62. Hastings, night, finding dead body, 92*l.* 8*s.*
63. Falls of the Machno, windy weather, 106*l.* 1*s.*
64. The Tailories, upright, painted for Lord Wharnccliffe, 120*l.* 15*s.*
65. Amiens, upright, painted for Lord Wharnccliffe, 120*l.* 15*s.*
66. A Hayfield, Hereford, 1819, 43*l.* 3*s.*
67. The Porch of Notre-Dame-de-Lorette, at Paris, 19*l.* 19*s.*
68. Almsgiving, Hereford, 35*l.* 14*s.*
69. Buttery, Haddon, 26*l.* 5*s.*
70. Bettws-y-Coed, 45*l.* 3*s.*
71. Powis Terrace, 1840, from Collection of Rev. E. Coleridge, 273*l.*
72. Bolsover Castle, 1840, exhibited at the Loan Collection, 1870, 199*l.*
73. Fishermen and Women with Fish, 50*l.* 8*s.*
74. A Moor Scene, with Cattle, purchased of Mr. J. Parrington, 44*l.* 2*s.*
75. Crossing the Sands, 189*l.*
76. Crossing the Moor, a man ploughing, 168*l.*
77. The Pass of Glencoe, 178*l.* 10*s.*
78. A Man on Horseback crossing a moor, 252*l.*
79. Calais Pier, 257*l.* 5*s.*
80. Bettws Mill, 131*l.* 5*s.*
81. A Welsh Scene, 100*l.* 16*s.*
82. A Fisherman on the Sands, 162*l.* 15*s.*
83. A Crossing a Common, windy day, 147*l.*
84. Haymaking, 220*l.* 10*s.*
85. Bolton Park on the Wharfe, 220*l.* 10*s.*
86. A Scene in Wales, with shepherds driving sheep, 367*l.* 10*s.*
87. A Scene in Wales, Bettws-y-Coed Meadows, 367*l.* 10*s.*
88. Kennilworth, 14½ in. by 10½ in., 199*l.* 10*s.*
89. A Hop Garden, 14½ in. by 10 in., 220*l.* 10*s.*
90. Old Mill and Moor, from Collection of Mr. J. E. Fordham, 472*l.* 10*s.*
91. Kenilworth, 14½ in. by 10½ in., exhibited at Leeds, 1868, 409*l.* 10*s.*
92. Fors Novin, North Wales, 325*l.* 10*s.*
93. A Cornfield, with horse and cart going through a gate, 315*l.*
94. A Cottage, and Man Ploughing, 299*l.* 5*s.*

95. Gipsies Crossing a Common, exhibited at Loan Collection, 1870, 315*l.*
96. Beaumaris, engraved in Roscoe's "North Wales," &c., 441*l.*
97. Interior of the Picture Gallery at Hardwicke Hall, 157*l.* 10*s.*
98. The Companion, from the Bullock Collection, 157*l.* 10*s.*
99. Rhyl Sands, purchased at Mr. Grundy's Sale, 157*l.* 10*s.*
100. A View in Chatsworth Park, with deer, by R. Hills, 99*l.* 15*s.*
101. A Palace on the Banks of a River, 127*l.*
102. Tamworth, a sketch from nature made in the summer, 1846, 131*l.* 5*s.*
103. Golden Vale, Caermarthenshire, Collect. of Rev. E. Coleridge, 320*l.* 5*s.*
104. Haddon Hall, from the Collection of Mr. Sam. Mendel, 430*l.* 10*s.*
105. Carthage, Æneas and Achates, a composition, 472*l.* 10*s.*
106. Water Tower, Kenilworth, from Bickerstaff's Collection, 766*l.*
107. The Night Train, 640*l.*
108. Deer Stalking in Bolton Park, from Collection of Mr. Birch, 997*l.* 10*s.*
109. Hardwick Castle, from the Collection of Mr. W. M. Bigg, 1,008*l.*
110. Storm on the Llugwy, from Pont-y-Kyfin, near Capel Curig, 693*l.*
111. Green Lanes, 30 in. by 25 in., 1,470*l.*
112. The Vale of Clwyd, exhibited at the Loan Collection, 1,627*l.* 10*s.*
113. The Hayfield, 33 in. by 22 in., exhibited at the Royal Academy, 2,950*l.*
114. Peace and War, Lyme Castle, Hythe, Kent, 997*l.* 10*s.*

GEORGE CATTERMOLLE.

115. Montrose's Retreat, the Battle on the Bridge, 168*l.*
116. Charles on his way to Scotland, 78*l.* 15*s.*
117. The Seizure of Charles I. at Holdenby House, 78*l.* 15*s.*
118. Colonel Pride's Purge, 120*l.* 15*s.*
119. Hamilton of Bothwell Haugh, 99*l.* 15*s.*
120. Assassination of Rizzio, exhibited at the Loan Collection, 173*l.* 5*s.*
121. The Sleeping Warder, 78*l.* 15*s.*
122. The Baron's Chapel, exhibited at the Loan Collection, 1871, 152*l.* 5*s.*
123. The Escape, 162*l.* 15*s.*
124. Trying the Sword, 262*l.* 10*s.*
125. The Darnley Conspirators, 136*l.* 10*s.*
126. Old Mill and Stream, 73*l.* 10*s.*
127. Benvenuto Cellini valuing one of his own productions, 283*l.* 10*s.*
128. The Passage of the Kings, Macbeth, Loan Collection, 1871, 84*l.*
129. Macbeth instructing the Murderers, Loan Collection, 1871, 252*l.*
130. The Death of Duncan, Loan Collection, 1871, 99*l.* 15*s.*
131. A Coffee Bearer, from Frazer's Collection, 69*l.* 6*s.*
132. Cromwell with Lawyers at Carisbrook, Royal Academy, 1873, 77*l.* 14*s.*
133. Shakespeare, as a youth, reciting a Birthday Ode, 375*l.*
134. Salvator Rosa and the Brigands, Collection of J. Harris, 409*l.* 10*s.*
135. Old English Hospitality, 430*l.* 10*s.*

SAMUEL PROUT.

137. A Shrine with Figures, 81*l.* 18*s.*
138. A Cross and Buildings, 107*l.* 2*s.*
139. Old Hulks, 15*l.* 15*s.*
- 139*. A Street Scene, 178*l.* 10*s.*
140. A Crypt, 59*l.* 17*s.*
141. Hastings Beach, a sketch, sepia, 14*l.* 14*s.*
142. The Church of St. Pierre, Caen, 840*l.*

R. HEILBUTH.

143. Dolce far Niente, from the Suffolk Street Gallery, 1871, 100*l.* 16*s.*

J. ISRAELS.

144. The Knitter, 131*l.* 5*s.*

FORTUNY.

145. Interior of a Morocco-carpet Warehouse, 1,470*l.*

Total amount realised on first day . . . £29,761 16 6

Second Day's Sale. Friday, April 9.

S. AUSTEN.

146. A Beach Scene, with fishermen, 21*l.* 1*s.*

MISS BURNS.

147. Flowers, 3*l.* 3*s.*

MISS BLAKE.

148. St. Michael's Church, Ghent, 10*l.* 10*s.*

G. P. BOYCE.

149. The Teme, near Ludlow, in flood, 15*l.* 4*s.* 6*d.*

E. DE BEAUMONT.

150. Seven small drawings, 37*l.* 16*s.*

GEORGE BARRETT.

152. A Boat and Figures, 57*l.* 15*s.*
153. A Harvest Scene, 157*l.* 10*s.*
154. The Wayside Inn, with cattle, sunset, 94*l.* 10*s.*
155. London from Highgate, 42*l.*
156. Morning, 168*l.*
157. Evening, 157*l.* 10*s.*
158. London from Highgate, 131*l.* 5*s.*
159. An Extensive Landscape, with peasant, dog and sheep, sunset, 315*l.*
160. A Composition, sepia, 9*l.* 19*s.* 6*d.*
161. A Sea Piece, sepia, 10*l.* 10*s.*
162. Harvest Moon, from the collection of Mr. F. Timmins, 194*l.* 5*s.*

WILLIAM BENNETT.

163. Giants of the Forest, 174*l.* 6*s.*
164. A Limekiln in Somersetshire, purchased from the artist, 21*l.*
165. Hastings, purchased from the artist, 24*l.* 3*s.*
166. A Landscape, ferns and firs, Longleat gravel pit, 47*l.* 5*s.*
167. Reigate, Surrey, 13*l.* 13*s.*
168. Hastings Beach, 11*l.* 11*s.*
169. Near Reigate, 10*l.* 10*s.*
170. Loch Clare, 173*l.* 5*s.*

171. A Hay Field, 13*fs.* 10*s.*
 172. In Yorkshire, 31*l.* 10*s.*
 173. A Hay Field, Holywell, Flint, 18*l.* 18*s.*
 174. Bere Head, Seaton, Devon, from the artist's sale, 29*l.* 18*s.* 6*d.*
 175. Byland Abbey, Yorkshire, from the artist's sale, 31*l.* 10*s.*
 176. West Ham Church, Pevensay, 32*l.* 0*s.* 6*d.*

BIRKET FOSTER.

177. Wind and Rain, 63*l.*
 178. St. Goar, on the Rhine, 57*l.* 15*s.*
 179. Saltburn, 1865, a sketch, 47*l.* 5*s.*
 180. A Cottage, 52*l.* 10*s.*
 181. Studies of Hay, Trees, and Wood, 65*l.* 2*s.*
 182. On the Grand Canal, Venice, from the Water Colour Gallery, 47*l.* 5*s.*
 183. In the Woods, autumn study, Water Colour Gallery, 1869, 47*l.* 5*s.*
 183*A.* A Cottage, with a girl feeding ducks, 126*l.*

GEORGE FRIPP.

184. Rannoch Moor, purchased from the artist, 53*l.* 11*s.*
 185. On the Thames, 96*l.* 12*s.*
 186. The Village of Streatley, with corn field, Water Colour Gallery, 1866, 178*l.* 10*s.*

EDWARD DUNCAN.

188. A Wheat Field, Warwickshire, Loan Exhibition, 1871, 115*l.* 10*s.*
 189. Seaweed, Jersey, 120*l.* 15*s.*
 190. A Welsh Mountain Road, with cattle, 105*l.*
 191. Rye, from Romney Marshes, Loan Exhibition, 1871, 162*l.* 15*s.*
 192. A Landscape, with ducks, 26*l.* 5*s.*

WILLIAM HUNT.

193. Fish, 14*l.* 14*s.*
 194. Foxgloves, 52*l.* 10*s.*
 195. White and Black Grapes, 94*l.* 10*s.*
 196. Melon and Grapes, 84*l.*
 197. A Gamekeeper, exhibited at the Royal Academy, 1873, 136*l.* 10*s.*
 198. The Gamekeeper's Daughter, 42*l.*
 199. Aldenham Churchyard, 21*l.*
 200. Dead Partridge, exhibited at the Royal Academy, 1873, 52*l.* 10*s.*
 201. Young Partridge, 10*l.* 10*s.*
 202. The Oyster Catcher, exhibited at the Royal Academy, 1873, 36*l.* 15*s.*
 203. A Stable at Cashiobury, exhibited at the Royal Academy, 1873, 39*l.* 18*s.*
 204. Still Life, 18*l.* 18*s.*
 205. A Water Girl, 29*l.* 8*s.*
 206. A Gamekeeper, from the Bernal Collection, 36*l.* 15*s.*
 207. A Cow, from the Bernal Collection, 23*l.* 1*s.*
 208. Still Life, from the Bernal Collection, 36*l.* 15*s.*
 209. Bird's Nest and Dog-rose, 55*l.* 13*s.*
 209*A.* A Girl Praying, 110*l.* 5*s.*
 210. A Boy blowing Bubbles, a sketch, exhibited at Loan Collection, 96*l.* 12*s.*
 211. A Bird's Nest, with Primroses and Mossy Background, 157*l.* 10*s.*
 212. Apple and Grapes, with Mossy Background, 43*l.* 1*s.*
 213. Plums, with Mossy Background, oval, 222*l.* 12*s.*
 214. The Doubtful Coin, from the Collection of Mr. Thos. Brown, 74*l.* 11*s.*
 215. Plums, exhibited at the Loan Collection, 75*l.* 12*s.*
 216. Portrait of the Artist's Daughter, 22*l.* 1*s.*
 217. A Stable Boy with a Lantern, 126*l.*
 218. Gravel Pit Pottery at King's Cross, 97*l.* 13*s.*
 219. St. Martin's Church, 105*l.*
 220. Wreath of Flowers, exhibited at the Loan Collection, 141*l.* 15*s.*
 221. Plums, oval; and 222. Bank of Primroses and Bird's Nest, oval, the companion, both from the Collection of Mr. J. Harris, 472*l.* 10*s.*
 223. Dead Pigeon, from the Collection of Mr. R. Wade, 173*l.* 5*s.*
 224. Pine-Apple, Grapes, and Pomegranate, 220*l.* 10*s.*
 225. Interior of a Hut with Gipsies, from Collection of Mr. J. Fallows, 315*l.*
 226. Primroses on a Mossy Bank, from Collection of Mr. J. H. Gurney, 257*l.* 5*s.*
 227. Too Hot, from the Collection of Mr. John Leigh Clare, 737*l.* 10*s.*
 228. Cymon and Iphigenia, from Collection of Mr. Sam Mendel, 462*l.*
 229. The Eaves Dropper, from the Collection of Mr. J. James, 787*l.* 10*s.*
 230. Devotion, 420*l.*

J. M. W. TURNER, R.A.

231. Leatherhead, 42*l.*
 232. Ramah, Bible Series, exhibited at the Loan Collection, 173*l.* 5*s.*
 233. Rokeby, Vignette, exhibited at the Loan Collection, 64*l.* 1*s.*
 234. The Pass of St. Bernard, from Mr. Pound's Collection, 52*l.* 10*s.*
 235. Reichenbach on the Upper Rhine, Rev. E. Coleridge's Collection, 252*l.*
 236. Geneva, from General Rawdon's Collection, 299*l.* 5*s.*
 237. Thun, from General Rawdon's Collection, 294*l.*
 238. Sion, from General Rawdon's Collection, 43*l.* 1*s.*
 239. Entrance to Battle Abbey, from Collection of Rev. C. Prater, 81*l.* 18*s.*
 240. Storm on the Lagoon, 105*l.*
 241. Pendennis Castle, 157*l.* 10*s.*
 242. Aldborough, 157*l.* 10*s.*
 243. Plymouth, from Collection of Mr. John Farnworth, 409*l.* 10*s.*
 244. Cashiobury, exhibited at Royal Academy, &c., 1873, 435*l.* 15*s.*
 245. The Tomb of Cecilia Metella, from Munro Collection, 336*l.*
 246. Malvern, 840*l.*
 247. Heidelberg, 1,522*l.* 10*s.*
 248. Oberwesel, from Collections of Mr. O. Whitaker, &c., 1,627*l.* 10*s.*

W. MÜLLER.

249. A Street in Cairo, &c., from Collection of C. Stanfield, R.A., 113*l.* 8*s.*
 250. Tombs at Macri Lycia, &c., from the Dillon Collection, 84*l.*
 252. City of Flos, Lycia, with acropolis, 52*l.* 10*s.*
 253. Farm-house and Cattle near Clifton, from the Solly Collection, 75*l.* 12*s.*
 254. A Woody Landscape, from the Solly Collection, 51*l.* 9*s.*
 255. Pinara, Rock Tomb, Lycia, from the Solly Collection, 47*l.* 5*s.*
 256. Venice, from the Solly Collection, 84*l.*
 257. Château of Brissac, France, from the Solly Collection, 47*l.* 5*s.*

258. Yurook Huts, the wandering tribes or Turcomen, 127*l.* 1*s.*
 259. A Windmill, Brissac, France, 27*l.* 6*s.*
 260. The Tomb of Francis II. at Nantes, 22*l.* 1*s.*
 261. The Harpagus Tomb, Lycia, exhibited at Leeds, 1866, 194*l.* 5*s.*
 262. Pinara, Acropolis, exhibited at Leeds, 1868, 75*l.* 12*s.*

LOUIS HAGHE.

263. An Exterior, Winter, 85*l.* 1*s.*
 264. An Interior, 53*l.* 11*s.*
 265. The Brewers' Hall, Antwerp, 178*l.* 10*s.*

CARL HAAG.

267. A Tyrolese Huntsman and Mountain Girl, 525*l.*
 268. Pifferaro, exhibited at the Loan Collection, 1871, 78*l.* 15*s.*
 269. Tambourina, exhibited at the Loan Collection, 63*l.*
 270. Encamping at Palmyra, exhibited at the Loan Collection, 420*l.*
 271. Leaving Palmyra, exhibited at the Loan Collection, 414*l.* 15*s.*
 272. A Greek Man; and 273. A Greek Woman, 193*l.* 5*s.*

F. W. BURTON.

274. La Marchesa, purchased from the Artist, 336*l.*
 275. La Romanina, exhibited at the Dudley Gallery, 1871, 598*l.* 10*s.*
 276. A.D. 1660, a Remnant of the Ironsides, purchased from Artist, 420*l.*
 277. The Rendezvous, a Nuremberg girl, purchased from Artist, 178*l.* 10*s.*

COPLEY FIELDING.

278. Rivaulx Abbey, from the Bicknell Collection, 997*l.* 10*s.*
 279. Loch Awe, near Ben Cruachan, exhibited at Leeds, 1868, 892*l.* 10*s.*
 280. The Mull of Galloway, exhibited at Leeds, 1868, &c., 1,732*l.* 10*s.*

Total amount realised on second day . . . £24,562 14 0

Third Day's Sale. Saturday, April 10.

WILLIAM CALLOW.

281. A View in Venice, 5*l.* 15*s.* 6*d.*

LUKE CLENNELL.

282. On the Thames, a sketch in sepia, 11*l.* 0*s.* 6*d.*
 283. Tilbury Fort, a sketch in sepia, 16*l.* 16*s.*
 284. The Logan Stone, Cornwall, a sketch in sepia, 18*l.* 18*s.*
 285. A Ferry Boat, a sketch in sepia, 12*l.* 12*s.*

GEORGE DODGEON.

287. The Haunted House, 68*l.* 5*s.*

W. EVANS (of Eton).

288. Near Whitby, exhibited at Water-colour Society, 1864, 38*l.* 17*s.*
 289. The Old Pier at Folkestone, exhibited at Water-colour Society, 22*l.* 1*s.*

F. O. FINCH.

290. A Composition, 37*l.* 16*s.*

A. FRIPP.

291. Tivoli, a sketch, 64*l.* 1*s.*
 292. Piping Shepherd-boy, from the Collection of Mr. A. Grant, 38*l.* 17*s.*

W. E. FROST, R.A.

293. Diana, 4*l.* 4*s.*

C. GREEN.

294. Hastings, 44*l.* 2*s.*
 295. Sunday's Dinner, 26*l.* 5*s.*

T. GAINSBOROUGH, R.A.

296. A Sketch, pencil, 4*l.* 14*s.* 6*d.*

J. D. HARDING.

297. Cedars of Lebanon, exhibited at the Royal Academy, 1873, 42*l.*
 298. Vietri, between Naples and Amalfi, with brigands, 44*l.* 2*s.*
 299. The Castle of Nepi, on the road from Foligno to Rome, 42*l.*
 300. Vico, Bay of Naples, engraved in the "Landscape Annual," 32*l.* 11*s.*
 301. A Roman Woman at a Well, 9*l.* 9*s.*
 302. A View in Italy, 29*l.* 8*s.*

H. HIND.

303. A Mill at Lewes, 46*l.* 4*s.*

A. HUNT.

304. Loch Clare, purchased at the Exhibition of Sketches, 1868, 26*l.* 5*s.*

S. P. JACKSON.

305. St. Michael's Mount, 157*l.* 10*s.*

HARRY JOHNSON.

306. The Valley of the Sixt, 22*l.* 1*s.*
 307. The Gulf of Spezzia, 47*l.* 5*s.*
 308. In Devonshire, 26*l.* 5*s.*
 309. The Bass Rock, exhibited at the Water-colour Institute, 1874, 43*l.*

W. L. LEITCH.

310. An Italian Composition, 23*l.* 2*s.*

H. MCKENZIE.

311. Tintern Abbey, 21*l.*

D. MACLISE, R.A.

312. Illustration to Moore's Irish Melodies, "Come o'er the Sea," 10*l.* 10*s.*

S. OWEN.

314. A Coast Scene, 11*l.* 0*s.* 6*d.*

S. PALMER.

315. After a Storm, 63*l.*

D. ROBERTS, R.A.

316. Abbeville Cathedral, 94*l.* 10*s.*
 317. Granada, from the banks of the Xenil, 105*l.*
 318. Jedburgh, 87*l.* 3*s.*
 319. Whitehall, engraved in illustrations to "Fortunes of Nigel," 53*l.* 11*s.*
 320. The Fortress of Rhonda, 19*l.* 19*s.*
 321. The Gate of Petra, 15*l.* 15*s.*

T. M. RICHARDSON.

322. Heidelberg, 16*l.* 16*s.*

E. TAYLER.

323. The Evening Stroll, exhibited at the Loan Collection, 341*l.* 5*s.*
 324. A Female Head, 84*l.*

A. VICKERS.

325. On the Thames, 52*l.* 10*s.*

G. F. ROBSON.

326. Highland Scenery, exhibited at the Royal Academy, 1873, 110*l.* 5*s.*

F. SMALLFIELD.

327. The Ghost Story, 31*l.* 10*s.*

J. S. COTMAN.

328. Ships, 31*l.* 10*s.*
 329. St. Michael's Mount, 88*l.* 4*s.*
 330. A Barge under Sail, 42*l.*

T. S. COOPER, R.A.

331. A Landscape, with cattle, 49*l.* 7*s.*
 332. A Landscape, with cows, 90*l.* 6*s.*
 333. A Sketch, sepia, 8*l.* 18*s.* 6*d.*
 334. A Sketch, sepia, 16*l.* 16*s.*

E. W. COOKE, R.A.

335. Dover, 16*l.* 5*s.* 6*d.*
 336. Dover, 105*l.*
 337. Ramsgate Harbour, 68*l.* 5*s.*
 338. Dover Harbour, 47*l.* 5*s.*
 339. Hastings Beach, 19*l.* 19*s.*
 340. Fishing Boats, 74*l.* 11*s.*

GEORGE CHAMBERS.

341. A Sea-piece, 57*l.* 15*s.*
 342. Hulks, 21*l.*
 343. On the Thames, 23*l.* 2*s.*
 344. Fort Rouge, a sketch in sepia, 27*l.* 6*s.*
 345. On the Thames, 22*l.* 1*s.*
 346. Off Portsmouth, 78*l.* 15*s.*

CLARKSON STANFIELD, R.A.

347. Lago Maggiore, from General Rawdon's Collection, 131*l.* 5*s.*
 348. Verrax, 110*l.* 5*s.*
 349. Venice, St. Maria della Salute, 84*l.*
 350. Barges on the Thames, sepia, 15*l.* 4*s.* 6*d.*

J. HOLLAND.

351. Frankfort, 19*l.* 19*s.*
 352. A View in Venice, 52*l.* 10*s.*
 353. Roses, exhibited at the Loan Collection, 288*l.* 15*s.*
 354. Flowers, 90*l.* 15*s.*
 355. Venice, upright, 115*l.* 10*s.*
 356. Venice, Summer, purchased at the Exhibition of Sketches, 115*l.* 10*s.*
 357. A View on the Tagus, purchased from the artist, 42*l.*

JOHN VARLEY.

358. A Composition, from General Rawdon's Collection, 16*l.* 16*s.*
 359. On the Thames, 52*l.* 10*s.*
 360. On the Thames, 49*l.* 7*s.*
 361. Eton College, 21*l.*
 362. Lake Depontis, 32*l.* 11*s.*
 363. A Cottage, 15*l.* 15*s.*
 364. A Sketch, sepia, 5*l.* 5*s.*
 365. A Sketch, sepia, 5*l.* 5*s.*

L. J. WOOD.

366. Caen, 23*l.* 2*s.*

W. F. WITHERINGTON, R.A.

367. Cattle, 11*l.* 11*s.*

E. LUNDGREN.

368. An Egyptian Nurse, 46*l.* 4*s.*

J. T. WAITE.

369. A Cold Day on the Moors, 57*l.* 15*s.*

J. M. WRIGHT.

370. Village Choristers, 35*l.* 14*s.*

FREDERICK TAYLER.

371. The First of September, 168*l.*
 372. Two Studies for the Drawing of Hawking, 54*l.* 12*s.*
 373. A Girl and Dogs, 36*l.* 15*s.*
 374. A Sketch, pencil and sepia, 21*l.*
 375. A Ferry-boat, 105*l.*
 376. Highland Drovers, 27*l.* 6*s.*
 377. Cattle and Figures, 32*l.* 11*s.*
 378. Peasants with a Cart, a sketch, 22*l.* 1*s.*
 379. Sheep with Drover descending a Hill, 70*l.* 7*s.*
 380. Changing Pasture, 79*l.* 16*s.*
 381. A Fisherwoman of Whitehaven, exhibited at Loan Collection, 131*l.* 5*s.*
 382. A Fisher-girl, exhibited at the Loan Collection, 157*l.* 10*s.*
 383. A Girl with Ducks, 21*l.*
 384. Falcons, 14*l.* 14*s.*
 385. A Basket of Dead Game, 58*l.* 16*s.*

SIR JOHN GILBERT, A.R.A.

386. The Duke of Gloucester and the Murderers, 420*l.*
 387. "To Be or Not to Be," purchased at Exhib. of Sketches, 1868, 430*l.*

F. W. TOPHAM.

388. The Holy Well, 241*l.* 10*s.*
 389. Little Nelly in the Churchyard, 325*l.* 10*s.*
 390. A Girl Spinning, 23*l.* 2*s.*
 391. Oliver Goldsmith hearing his Ballad sung, 262*l.* 10*s.*

F. WALKER, A.R.A.

392. The New Boy, exhibited at Leeds, 1868, &c., 210*l.*

R. P. BOWINGTON.

393. Cheyne Walk, Chelsea, exhibited at Loan Exhib., 1871, &c., 54*l.* 12*s.*
 394. A Windmill, a sketch in sepia, 26*l.* 5*s.*
 395. A Coast Scene, with Boats, exhibited at Leeds, 1868, &c., 110*l.* 5*s.*
 396. A Coast Scene, with Boats, exhibited at Loan Col., 1871, 78*l.* 15*s.*
 397. Grindelwald Glacier, from the Inn, 48*l.* 6*s.*

G. CARRICK, 1848.

398. Scouts Looking Out, from Fraser's sale, 68*l.* 5*s.*

P. DE WINT.

399. Near Lincoln, a sketch, 63*l.*
 400. A Bridge, 115*l.* 10*s.*
 401. The City Basin, sepia, 28*l.* 7*s.*
 402. In Tyrol, above Zarl, looking down the valley, sepia, 26*l.* 5*s.*
 403. Bognor, sepia, 17*l.* 17*s.*
 404. A River Scene, with a cart, 126*l.*
 405. Kirkstall Abbey, Yorkshire, 210*l.*
 406. Farmyard and Buildings, 504*l.*
 407. Still Life, an upright basket, with earthenware pans, &c., 22*l.* 1*s.*
 408. Carisbrook, exhibited at the Royal Academy, 1873, 63*l.* 11*s.*
 409. Lancaster, exhibited at the Water-colour Gallery, &c., 950*l.* 5*s.*
 410. Southall, Notts, exhibited at the Loan Col., 1870, &c., 1,732*l.* 10*s.*

P. F. POOLE, R.A.

411. Peasant Girls, exhibited at the International Exhib., 1862, 577*l.* 10*s.*
 412. Rustic Mother and Child, exhibited at Inter. Exhib., 1872, &c., 526*l.*

J. F. LEWIS, R.A.

413. A Highland Interior, 23*l.* 2*s.*
 414. Caged Doves, exhibited at Leeds, 1868, and at Loan Col., 1871, 210*l.*
 415. A School at Cairo, exhibited at Leeds, 1868, and at Loan Col., 1,239*l.*
 416. Lilium Auratum, 1,060*l.* 10*s.*
 417. The Prayer of Faith shall Heal the Sick, 1,176*l.*

Total amount realised on the third day . . . £16,420 7 6
 Gross total of sale 70,774 18 0

THE ECCLESIASTICAL DILAPIDATIONS ACT.

At the Session of the Salisbury Diocesan Synod, which has just been held, the Rev. R. S. HUTCHINGS moved, "That a committee be appointed to inquire into the working of the 'Ecclesiastical Dilapidations Act' in this Diocese, and to report thereon to the Synod at its next session." He said that there were special reasons why the motion should be brought forward at the present time. One was that some modifications of the Act were proposed to be laid before Parliament; the other was that the period of three years for which the diocesan inspectors were appointed had expired, and that they would consequently have to be re-appointed. Few clergy, he thought, were aware what a potent engine had been established by this Act. During the last three years 141 benefices in the Diocese had been brought under its operation, 81 in Dorset and 60 in Wilts; and the amount of the dilapidations had been assessed by surveyors at no less a sum than 17,292*l.*; and besides that there was at least 1,200*l.* solely for fees, independently of travelling expenses. That would explain why the Act had so completely failed in one important point which it was intended to fulfil, viz., to afford the clergy the means of obtaining a certificate of non-liability for dilapidations for the space of five years. Out of the 141 cases in the diocese which had come under the Act, only 22 had been voluntary, the remainder being owing to avoidance of livings by resignation, exchange, or sequestration, of which latter there were six cases. Eighteen thousand pounds had been drawn from the pockets of the clergy, and if the next generation did not find the residences of the clergy in solid and substantial repair it would not be the fault of the Act. He did not see why ecclesiastical dilapidations should be more costly than others; and he suggested the appointment of a skilled referee to decide between surveyors and incumbents.

The Rev. TUPPER CAREY said he would give his own experience as a caution to his clerical friends. He was one of the seven in the county of Wilts who voluntarily put themselves under the Act the first year. He had a house, which it was his pride to keep in perfect order, and he fondly thought he might defy the coming of a surveyor. But the surveyor came, and the upshot of it was that he had to pay 226*l.* for repairs and "re-modelling."

The Bishop of SALISBURY wished to add one reason for the appointment of a committee on the subject which applied to him personally. The bill was one which he regarded with the utmost uneasiness. If a surveyor made a report of dilapidations which the clergyman considered excessive, the clergyman might appeal to the bishop, and the bishop might appoint another surveyor to report. Then the bishop had to judge between the two surveyors, and settle the matter at his own discretion, out of the plenitude of his own natural sagacity. Being neither lawyer nor surveyor, he was expected to decide questions on which those professional men disagreed. The law was in a crude and unsatisfactory state, but the new Act was experimental, and might be the means of doing great good. One of the hardest points was that the clergyman, even if successful in his appeal, had to pay all the costs of that appeal.

The motion was unanimously adopted.

VENTILATION BY VERTICAL SHAFTS.

THE *Times* has published a long article upon a discovery by a Mr. Tobin, of Leeds, of a method of ventilation which it is affirmed renders the atmosphere of any chamber as pure as that outside the building, without improper lowering of temperature, and without the production of draught. Mr. Tobin's own account of the matter is that he was once watching a current of water which flowed into a still pond. He observed that the moving water kept together, and held its own, until its course was arrested by the opposite bank, when it curved gently round on either side, and was lost insensibly in the general body, which had its outlet for overflow at one side. He reflected that a current of air introduced into a room would act in precisely the same manner, keeping together until it encountered an obstacle, then mixing insensibly with the air around it, and compelling an overflow wherever there was an opening available. He saw that, if this were so, it would only be necessary to give the entering current an ascending direction, so that it would reach the ceiling without impinging on any person, in order to solve the whole problem of domestic ventilation. Experiments at his own house confirmed his anticipation, and led him to contrive methods, which he has patented, of carrying his principle into practice.

At that time the state of the Borough Police Court at Leeds was, as, indeed, it had been for some time previously, a source of great perplexity to the Town Council. The Justices were often compelled to make their escape before the business of the day was concluded; and the Council had expended between 1,400*l.* and 1,500*l.* on successive ventilation doctors, each of whom had left matters as bad as, if not worse than, they were before.

Mr. Tobin suggested that the Council should pay him a nominal royalty for the use of his patent, and that they should pay the few pounds required for doing the work, leaving his own remuneration to their discretion when they saw the effect. These terms having been accepted, he placed under the floor of the Court three horizontal shafts which communicated with the open air through a cellar grating. From these were brought eight vertical shafts through the floor at different points. The shafts rise about four feet above the floor, and are each five inches in diameter. They have open mouths, and are placed out of the way in corners, or against the partitions of the Court. From each shaft there ascends to the ceiling an unbroken current of the outer air, like a fountain, or like a column of smoke when the barometer is high. The current will support feathers, or wool, or other light substances, and has so little tendency to spread laterally that it can be made to influence half the flame of a candle, while the other half remains undisturbed. A person resting his cheek against the margin of one of the tubes feels no draught, and the hand feels none until it is inclined over the orifice. The effect was instantly to render the Court as fresh and sweet as the external air of the building; as the products of respiration were forced out through the skylight.

After three months' trial, and after all the magistrates for the borough had joined in a report, which expressed their entire and unmixed satisfaction, the Corporation voted Mr. Tobin an honorarium of 250*l.*, to express their sense of the benefit which he had conferred upon the town. They also applied his system to the Council Chamber; and their example was followed by some of the leading bankers and merchants, by the churchwardens of St. George's Church, and by the proprietors of the *Leeds Mercury*.

The system of vertical tubes is necessary for rooms which have no side windows, or which have only a small window surface in proportion to their cubic contents. But Mr. Tobin at the same time contrived a cheap and simple method, by which vertically ascending air currents can be introduced through common window sashes; and this method will suffice for all ordinary living or sleeping apartments. Each of the openings made for this purpose is provided with a cover by which it can be closed at will; and they admit of a method of securing the sashes which affords almost entire security against burglars. A very competent authority has communicated to the *Times* his experience for eight weeks of a room containing 2,500 cubic feet, ventilated, under Mr. Tobin's direction, by four window openings which have an aggregate area of 30 square inches, but which are filled by layers of cotton wool to filter the entering air from dirt and moisture. The currents ascend in absolute contact with the glass, keeping so closely to it that they do not affect the flame of a taper which is held vertically in contact with the sash bar; although, as soon as the taper is inclined towards the pane its flame is strongly fluttered. In this way the air ascends to the top of the window, where it is directed to the ceiling and lost as a current, being no longer traceable by taper, hand, or fragments of down, although closing the window openings diminishes in a marked manner the draught up the chimney. Each opening, as already described, has an independent cover, and, without the wool, the four would, in cold weather, be too much for a room of the size specified. With the wool they do not perceptibly diminish the temperature, but they give a feeling of absolute out-of-door freshness, which must be experienced in order to be appreciated. There is no draught anywhere, and the openings are not visible unless sought for, so that curious inquirers who have remarked on the result have been unable to find the inlets. Arranged as described, the openings are sufficient to feed a large argand table gas burner, and to sweep away entirely the products of its combustion; so that, when the room is shut up, with the gas lighted and with a good fire, for three or four hours, persons entering it from the open air are not able to discover, except by the greater warmth, any change of atmosphere. A bed-room ventilated in a similar manner is as fresh when the door is opened in the morning as when it was closed at night.

Mr. Tobin's experiments early led him to the conclusion that the prevailing notions about the necessity for carefully planned outlets were fallacious, and that, if proper inlets are provided, the outlets may generally be left to take care of themselves. In order to test this, he fitted two vertical tubes into a small room which had a fire-place and a three-light gas pendant. He closed the opening of the fire-place, and every other

opening into the room, except the tubes, hermetically, and, shutting himself within, pasted slips of paper all round the door. He found that there was then no entrance current by the tubes. The room had no outlet; it was full of air, which his respiration had not had time to consume in any appreciable quantity, and no more could get in. He next lighted the three gas burners, and a steady entrance current immediately set in through the tubes, and continued as long as the gas was burning. He waited nearly an hour without any deterioration of the atmosphere becoming perceptible to his senses, and with the currents steadily coming in and ascending in their customary manner. He then cut through the paper which secured the door, and left the room, shutting the door behind him. Returning half an hour later, he found the atmosphere still fresh. He next extinguished the gas, and the currents gradually died away, the original state of equilibrium or fullness being restored. This experiment, which has been several times repeated, seems to show that the external air will enter just in proportion as room is made for it by combustion or respiration, and that the rate of supply is essentially governed by the rate of destruction or demand.

In order to obtain an absolutely perfect result it is necessary to bear in mind that the behaviour of the entering current will be precisely like that of the vertical column of water sent up by a fountain, except that, as the ascending air is received in a fluid of only little less density than its own, it will mingle with that fluid gradually when the propulsive force is exhausted, instead of falling almost vertically by the action of gravity. But just as a fountain, if it encountered an obstacle while its column was still compact, would rebound from that obstacle with considerable violence, so the entering current of air, if it meet with an impediment prematurely, will be reflected as a draught. To prevent such an occurrence, it is necessary to make the inlets so low down that, under all ordinary circumstances, the force of the stream will be expended before the ceiling is reached; and when, from any circumstances, this cannot be done, the current may be broken by strainers of wire gauze or other suitable material. In this, as in most other matters, some special adaptation of means to ends is required; and the arrangements for any given room must be planned by some one who has practical knowledge of the subject.

Within the last two or three weeks Mr. Tobin has adapted his system to the Liverpool Police Court, and there, as well as at Leeds, he has entirely succeeded in attaining his object, and the satisfaction given to the local authorities has been such that it has been determined that all the other courts in the Town-hall shall at once be ventilated in a similar manner. In London the method of ventilation by vertical tubes has been applied to one of the wards of St. George's Hospital, and that by window openings to the Council Chamber of the Society of Arts and to a few private houses, everywhere with the same excellent results.

The discovery that the pressure of the atmosphere can thus be utilised as a perpetual source of air-supply, without the aid of fans or other mechanical contrivances; the discovery that all draughts can be obviated by the employment of vertical entrance channels, provided only that their mouths are not too near the ceiling, and the discovery that improper lowering of temperature is prevented by the circumstance that the rate of entrance of air is governed by the demand, are truly comparable in their simplicity to the balancing of the egg by Columbus. Simple as they are, they are none the less calculated to add greatly to the public health and comfort.

Captain Douglas Galton, commenting on the invention, says:—The principle of ventilation by utilising the pressure of the atmosphere is not new. It has been applied in a number of ways in various public and private buildings; notably in the method of barrack ventilation adopted in 1857 by the Barrack and Hospital Commission under Lord Herbert's auspices. Nor is there any novelty in the method of introducing fresh air into a room by means of vertical shafts delivering the air into the room at a few feet from the ground. I used it in 1861 in the wards of the Herbert Hospital at Woolwich, and in other hospitals, but I utilised the fireplace for the purpose, placing it in the centre of the ward, with its flue carried under the floor, in order that in cold weather the fresh air should be tempered by the spare heat from the fire. Plenty of other instances might be cited.

The principles of ventilation are well known. It is the application of those principles in special cases which causes the difficulty. The amount of current of inflowing air into a room will depend upon the facilities or arrangements for outflow, and *vice versa*. Therefore, for perfect ventilation, the proportions and position of both outlet and inlet must be considered; neither can be neglected; and if in the room on which Mr. Tobin experimented the air remained pure, it was because there was, in addition to the inflow, some means for an outflow of a sufficient quantity of air to remove the impurities given out from the lungs in breathing and from the gas in combustion. In English rooms of ordinary construction the open fireplace creates the difficulty in the introduction of fresh air. It is the cause of draughts, because the chimney with a fire in the grate is a strong engine for removing the air from a room, and it draws in through every means of ingress air to supply the place of that removed. If this air comes in cold draughts are felt, whatever be the position or manner in which the air is delivered. The hotter the fire the stronger the current up the chimney, and the greater the draught. For this reason, if a room with an open fire is to be really comfortable it should be provided with a continuous supply of fresh warmed air, and if the inlet be from 6 to 9 feet above the floor the inflow will not be felt by the occupants. The waste heat from the fire affords the most economical method of warming the fresh air.

When the principles of ventilation, which are perfectly well known, are carefully attended to, and where the inlets for fresh air and the outlets are duly proportioned to each other and placed in proper positions, and the fresh air adequately warmed and cooled as required, there will be no failure in ventilation. Where failure does occur it is either because of a misapplication of principles, or of a disinclination to incur the necessary expense for carrying the principles into effect.

RESTORATION OF SALISBURY CATHEDRAL.

A PUBLIC meeting was held in the Council House, Salisbury, on the 7th inst., for the purpose of raising funds to enable the Dean and Chapter to re-open the choir of the Cathedral, when the following statement or review of the various works of restoration carried out since 1864, at an expenditure of 33,400*l.*, was read. It was prepared by the Dean:—

1. The first operation was to consolidate the foundation with fresh concrete. The stone work was then repaired or renewed, a channel coated with Portland cement was carried round the building, and the whole was effectively drained. At the same time the earth, which to the height of between two and three feet had been heaped up against the walls, was cleared away. The plinth and base mouldings of the edifice being thus uncovered, its architectural effect has been strikingly improved.

2. On a careful survey of the exterior, it was found that most of the flying buttresses were in a dangerous state. Some of them have been entirely rebuilt, and the rest have been substantially repaired. The finials, pinnacles, parapet copings, and mullions, throughout the building, many of them in a state of dilapidation and decay, have been made good. The foliated shafts, capitals, and bases of the numerous windows have been thoroughly restored. These were originally of Purbeck marble, a material peculiarly liable to decay. It was therefore resolved by the recommendation of Sir G. Scott, to employ, in repairing them, a variety of the Devonshire marble, as being more durable and less costly than the Purbeck. The total cost of these works, extending over a surface of some three acres, amounted to 12,421*l.* 2*s.* 10*d.*

3. We next come to what was justly considered the vital part of our great work,—the strengthening of the tower, and the ensuring thereby the safety of the noble fabric itself. Here it must be remembered that the edifice terminated originally in an open lantern, projecting 8 feet above the ridges of the roof; that its walls are hollow; that the outer wall is only two feet thick, the inner consisting merely of a light arcade; that the intermediate space is an open triforium passage; and that the four corner piers are perforated by staircases. On a basis thus slight and unsubstantial was erected, about seventy years after the completion of the main edifice, the vast superstructure of the tower and spire. The effect of the pressure of so huge a mass soon became apparent by the crushing of the lantern walls and the settlement of the four great piers at the intersection of the nave and transepts. As regards the latter, there is no reason to believe that there has been any serious movement in the piers since they were connected, at the close of the 15th century, by the two great arches in the nave. And that they have remained stationary since the plumbing by Mr. Nash, the then Clerk of Works, in 1691, has been ascertained after a searching investigation by Sir G. Scott. The real, the imminent danger, lay in the walls of the lantern, which, when examined by him, were seen to be in so dilapidated and shattered a condition that the stability of the tower for so many centuries might, in his own words, be justly accounted a standing wonder.

4. The object then was to strengthen and consolidate the walls of the lantern, without overloading the four great piers in the nave. This object has been fully accomplished by means of an ingenious and elaborate system of iron ties, devised by Mr. Shields, the eminent civil engineer, whom Sir G. Scott had called in to assist him in this delicate operation. The basis of the tower having been thus made as secure as mechanical science, applied with the highest practical skill, could render it, attention was next directed to its interior. Many parts of this had been, for a long series of years, in a ruinous state. In the lantern storey eight windows, the four staircases at the angles, and the ashlar work have been restored. So likewise have been two windows on each of the east, west, and north sides of the upper storeys. And on the south side of the same storeys, four windows, which had been built up, have been opened out and completely refitted. At the apices of the windows of the uppermost storey, there have been added eight piers and relieving arches, on which the weight of the spire is now in great measure supported. Portions of the interior of the spire itself have been pointed, and the cap-stone, which was much dilapidated by the combined effects of time and weather, has been thoroughly repaired. The vane, an object of no little interest to the public, has been newly gilded, and its movement facilitated by a simple self-acting contrivance for oiling it. The restoration of the tower and spire has cost altogether 4,168*l.* 4*s.* 4*d.*

5. We now pass on to the west front, every part of which stood lamentably in need of renovation. The stone and marble work throughout have been repaired, and the enriched mouldings of the porches restored. These restorations have been executed with the most scrupulous care, every portion of unimpaired surface being preserved, and that which was destroyed being reproduced, in strict conformity with the remaining traces of the ancient work.

6. The restoration of the west front could not be regarded as complete without an attempt being made to replace some portion, at least, of the statues which anciently adorned it. The late Professor Cockerell has stated that there were originally on the exterior of the cathedral 161 figures, of which 123 stood on the west front. In a lecture delivered at a meeting of the Archaeological Institute in Salisbury in 1849, that eminent authority expressed his high appreciation of the artistic excellence of the few mutilated figures that still remained. From a minute examination of them it was inferred that the whole series on the west front formed what is termed a Te Deum or theological scheme.

In accordance with this was the plan of restoration proposed by Sir G. Scott, and by his advice entrusted for execution to a sculptor of rising reputation, Mr. Redfern. The work, still incomplete, may be thus briefly described:—In the panel in the great gable of the west front is a colossal figure of our Saviour, seated in Majesty. Ranged in successive tiers below this grand central figure, there are in the first tier, figures of angels; in the second, of prophets and patriarchs; in the third, of apostles and evangelists; in the fourth and fifth, of saints, martyrs, and founders. It will be observed that in this scheme apostles and evangelists are placed below prophets and patriarchs. The remains of two figures, those of St.

Peter and St. Paul, proved that this must have been the order in which they originally stood, as in fact both the number and distribution of the niches admitted of no other arrangement.*

7. Of the entire number of statues required to fill the niches on the west front, fifty-five have been fixed in their places, exclusive of eight ancient mutilated figures which have been restored by Mr. Redfern. For the further prosecution of this portion of the work there are no available funds. The cost of restoring the west front, including the statues, but not those which were special gifts, amounted to 8,454*l.* 7*s.*

As regards the Lady Chapel: the marble and stone work have been restored, and the Purbeck shafts and piers semi-polished. The floor has been laid with a pavement composed of marble and encaustic tiles, and the painting of the vaulted ceiling has been reproduced by Messrs. Clayton & Bell. The total cost of the restoration of the Lady Chapel was 3,315*l.*; and that of the eastern transepts and choir aisles, 4,210*l.* 18*s.* 10*d.*

8. The restoration of the choir itself, as a memorial to the late Bishop Hamilton, was the object of a special subscription, which, (including a donation towards a pulpit, and interest on deposits), amounted to 9,879*l.* 17*s.* 8*d.* The details of this work may be thus summarily sketched. The old organ screen has been removed, and the unsightly galleries and closets swept away. A large proportion of the ancient stalls still remain. These are of excellent design, and being of the original date of the building, are consequently most valuable specimens of the woodwork of the thirteenth century. They have all been repaired, and cleaned from the paint with which they were encrusted.

The Purbeck marble piers and shafts, the stone seating at the east end, one bay on each side, between the piers of the north and south aisles, and the exterior of the Audley Chapel, have all been restored.

The floor has been reduced to its original level, by lowering it to the depth of 10 inches. It has since been laid with concrete, preparatory to its receiving the new pavement, which will be formed by the combination of marble and encaustic tiles, the pattern of the latter being supplied by ancient examples in the cathedral or chapter house.

The handsome tombs of Bishop Bingham, on the north, and of Bishop Yorke, on the south side, which had been hidden by wooden screens, have been laid open and repaired.

The Hungerford Chapel is about to be taken down and removed, by permission of the Earl of Radnor. The ancient iron screen, which forms the most important part of the work, will be restored to the tomb in the nave, to which it originally belonged.

The valuable ancient paintings on the ceiling, which were still plainly discernible through the coat of colour intended to conceal them, have been carefully and skilfully reproduced by Messrs. Clayton & Bell. The east wall and one bay of the south wall have also been painted, as specimens of what existed beneath the wash, and as a guide to those who, at some future period, may have the ability as well as the desire to finish the whole.

The sum expended on the choir, up to this time, amounts to 7,015*l.*, leaving a balance on the Memorial Fund of 2,864*l.* 16*s.* 7*d.* The whole of this has been already appropriated, namely 1,000*l.* to the pavement, and the remainder towards the woodwork.

The architectural restoration of the choir may now be regarded as complete. It remains to provide the requisite furniture and fittings, which must be good, and are therefore costly. For these Sir Gilbert Scott has submitted the following estimate:—The choir screen, of oak, 1,200*l.*; canopies in connection with the screen, 900*l.*; stalls, 2nd and 3rd rows, 1,700*l.*; carving to stalls, 770*l.*; throne, 800*l.*; pulpit, 300*l.*; litany desk, 150*l.*; lectern, 150*l.*; altar rails, 300*l.*; sedilia and screen in next bay, 300*l.*; altar table, 150*l.*; grilles in eastern arches, 200*l.*; canopies to 44 prebendal stalls, at 49*l.* 10*s.* each, 2,178*l.*; canopies to the stalls of Chancellor and Treasurer at 112*l.* 10*s.* each, 225*l.*; total, 9,323*l.* But from this must be deducted 1,864*l.*, the sum appropriated towards the woodwork, leaving 7,459*l.* to be raised before the choir can be re-opened for divine worship.

SCHOOL BUILDING IN EDINBURGH.

AT the last meeting of the Edinburgh School Board, the School Management Committee reported that they had received the plans for the Bristo school, together with amended estimates showing a considerable rise on the prices formerly agreed to. In all it was estimated that the new buildings would cost 8,760*l.*, of which 6,300*l.* were for the school alone, and the remainder for other buildings, such as the janitor's house, together with furnishings. This sum was equal to a cost of 10*l.* 10*s.* a-head for every pupil who, according to anticipation, would attend the school, this being 30*s.* above the cost per pupil formerly agreed to by the Board.

One member said this was a very serious rise in the estimated cost of the building, and he was inclined to delay building operations in the meantime in the hope that the expenses incident to building would decrease.

Another member said he had no doubt the Government would be very well pleased were the School Board to delay further proceedings, because in that case they would not be applied to for a further grant. He submitted that the haste the Board were making in building schools was resulting in over-taxing the community.

The Chairman remarked that, so far as Bristo school was concerned, there was a very favourable opportunity for the Board to raise this question as to delay, as there was a temporary school in Nicolson Square, which was not yet full. On the other hand, however, they had to bear in mind that all the other schools in the city were overcrowded, and that the inspectors were constantly reporting against them. On the whole, he was afraid the Board of Education would not sanction any delay in this matter.

It was then agreed to postpone consideration of the estimates in question to a special meeting.

* See "Jameson's Sacred Legendary Art," vol. I. p. 178. For a full and interesting description of these statues, see "The Legend of Christian Art," by the Rev T. H. Arnold, p. 19.

ST. PAUL'S CHURCHYARD.

A MEETING of the City Commissioners of Sewers was held on Tuesday, when the Streets Committee brought up a report recommending that so much of the carriage way on the southern side of St. Paul's Churchyard as needed relaying should be repaved with the present stone as far as practicable, and the deficiency be made good with old dressed stone.

Against the recommendation a memorial, largely and influentially signed by the merchants and others occupying premises on that side of the Cathedral, was presented to the Court. They stated that, with the exception of the comparatively small piece of roadway then under consideration, there was at present a continuous line of wooden pavement from London Bridge to Fleet Street, including a considerable portion of St. Paul's Churchyard, and that it would be a great boon to the worshippers in the Cathedral and to them personally if the street could be paved with wood instead of stone, as proposed.

In the course of a discussion which ensued, Mr. Deputy FARRAR urged that the memorialists were entitled to much consideration, seeing that they contributed between 20,000*l.* and 30,000*l.* to the rates of the City, and he ridiculed the idea of repaving with granite the only gap in a mile or more of wood pavement, and that, above all places in the world, round the Cathedral.

Mr. CRISP stated that St. Paul's Churchyard on its traffic side was already half paved with wood—namely, from Ludgate Hill to the west front, and from Cheapside to St. Paul's School.

Mr. RUDKIN, on the other hand, warned the Commission that these large outlays on noiseless pavements would necessitate a considerable increase in the rates, though he admitted that there was no other objection to the application. He added that the Commission had now upon their hands several thousands of tons of paving stones, for which they could not get purchasers, and that every day almost an addition to that unwieldy stock was made.

Eventually, on the motion of Mr. Clark, the report of the committee was referred back to them for reconsideration, the chairman observing that the wishes of the memorialists would have every attention.

HOW ARCHITECTS ARE SELECTED IN LIVERPOOL.

AT the monthly meeting of the Liverpool School Board the report presented by the Sites and Building Committee contained a recommendation to appoint Messrs. H. and A. P. Fry architects to the new school about to be erected in or near Stanley Road.

Mr. BROWNE pointed out that the mode in which the committee had selected the architects—putting the names of the candidates in a hat and then drawing them by lot—was an extraordinary way of putting proper men in the right place. Surely there must have been some difference between the applicants, and he thought the proper thing for the committee to have done was to have recommended the architect that they believed to be the best.

Mr. FAIRHURST explained that nine members selected from the seventeen applications were all considered to be so undeniably good, that the mode of determining who should be elected was proposed by the chairman of the Board, and accepted, in order to relieve the committee from the very great difficulty of refusing one and selecting another, which would give rise to a considerable amount of jealousy.

Dr. BURROWS considered that it was a dead sort of way of selecting them, in which intellect seemed not to have been considered.

The CHAIRMAN mentioned that all the nine had a great deal of experience in building schools, and had equal claims on the Board. As to the mode of selecting them, he reminded Mr. Browne that there was scriptural sanction for it, seeing that the deacons in the early church were chosen by lot; and they had also parliamentary sanction for the course the committee took.

The recommendation was unanimously adopted.

THE CHARING CROSS APPROACH TO THE EMBANKMENT.

ON Tuesday and Wednesday Messrs. Horne, Eversfield & Co. were engaged, in accordance with instructions from the Metropolitan Board of Works, in disposing of the materials of the houses and property adjoining Northumberland House in Charing Cross, as well as in Northumberland Street, on the site required for the intended approach to the Embankment. The property consisted of twenty-six houses, shops, warehouses, and stabling in Charing Cross and Northumberland Street, of which seven were houses and shops on either side of Northumberland House, extending in an easterly direction as far as Northumberland Street, Strand, and on the west side bounded by the National Bank, the entire frontage of the land intended to be taken for the approaches and new street to be laid out, extending from the bank buildings just named at the commencement of Whitehall to the east boundary at Northumberland Street. No less than twenty houses on both sides of Northumberland Street (which to a great extent will be practically absorbed in the improvement) were included in the sale, including the whole of those on the west side, between the grounds of Northumberland House and Scotland Yard, and also those on the east side of the street from Northumberland Passage to the bottom of the street. The materials consisted of 283 lots, the first day's sale being confined to the property in Charing Cross, whilst the materials of the houses in Northumberland Street were sold on Wednesday. The sum produced by the two days' sale was not quite £2,000. The total area of the land between Charing Cross and the Embankment, which the Metropolitan Board will have at their disposal when the ground is cleared, is between three and four acres. The width of the Charing Cross frontage between the National Bank and Northumberland Street is about 450 feet, and the land to be cleared extends about 500 feet in depth in the direction

of the Embankment. According to the conditions of the sale, the purchasers of the materials are under an engagement to have the whole removed and cleared away in thirty days, and it is expected that the works in connection with laying out the new street and approaches, together with allotting the land on either side for building purposes, will be commenced not later than June next.

THE ANCIENT MONUMENTS BILL.

SIR JOHN LUBBOCK'S Bill, of which we lately gave an abstract, has at length been read a second time.

Sir J. LUBBOCK said the main effect of the Bill was really to gain a little time, during which the nation or the locality may, if so disposed, become the purchaser of the monuments. Under existing circumstances it had happened over and over again that interesting and venerable monuments were destroyed, generally for very homely and trivial reasons, to be used as manure, to mend the roads, to serve as gateposts, or for other similar purposes, and when the mischief was done everybody regretted it and was sorry and surprised.

Mr. W. E. FORSTER, in support of the Bill, gave an instance of a case in Cornwall, in which the necessity of some such enactment was painfully manifest. This was a very ancient church, supposed to be the first erected after the establishment of Christianity in this country. For hundreds of years it had been buried in the sand, but the sand blew away and almost every vestige of the church disappeared. There was an old graveyard round it where many of the pilgrims were buried, and as their bones were discovered people came and took them away.

Lord ELCHO said he was the son of the owner of one of those old Roman camps in the south of Scotland which were regarded with so much interest; but it was with the greatest difficulty that they had prevented it being swept away. With regard to public monuments, the State had admitted the principle of dealing with them. In his own country the Treasury had sanctioned the expenditure of 400*l.* in the restoration of a fine old abbey.

Sir H. PEEK, as one of the Conservators of Wimbledon Common, regretted to state that Caesar's Camp, variously stated to be from 1,500 to 2,200 years old, immediately adjacent to the common, somewhere about six or eight acres in extent, and one of the most interesting of our ancient monuments, was at the present moment being levelled, it having been let on building lease for 99 years at 10*l.* per acre. So anxious had the conservators been to preserve this important and interesting relic of by-gone times that they had offered to buy it privately, or to give an equivalent quantity of land on the common, but without success.

Mr. PELL thought the Bill necessary to counteract the spirit of mischief which was inherent in the British youth, and universal in the British snob.

Mr. W. H. SMITH, on behalf of the Government, strongly opposed the Bill as far as its details were concerned, although he admitted the preamble, which affirmed the importance of preserving ancient monuments. He opposed the Bill mainly because it proposed to constitute a very strong body of Commissioners, who were to have unlimited power to acquire ancient monuments which they might think it necessary to preserve. Another objection to the detailed provisions of the Bill was that they would have a tendency to relieve owners of property of responsibilities which they had hitherto been called upon to discharge, and had in the main discharged faithfully and well. The provision that the owners of ancient monuments should not be permitted to allow injury to the monuments in their possession was one which no owner could fully carry out, and which would compel the owners, for their own protection, to apply to the Commissioners to take the monuments under their care.

Sir JOHN LUBBOCK in reply asked hon. members to look at the ancient monuments in their own districts mentioned in that Bill, and tell him which of them they would see destroyed without regret. Was it Silbury Hill, the grandest sepulchral monument, perhaps, in Europe? Was it Avebury, the most remarkable of the so-called Druidical structures? Was it Stonehenge, enigmatical and unique? Was it Arthur's Round Table, or the Rollrich stones, Kils Coty House, or Wayland Smith's Forge, dear to all readers of Sir Walter Scott? Or, turning to Scotland, was it the curious Dun of Dornadilla? Was it the Burgh of Moussa, the only one, he believed, mentioned in the Sagas, and which is even now nearly perfect? Was it Sueno's Stone? or the Cats Stone, with its inscription said to be in memory of Vetta, the son of Hengist? Was it the Newton Stone, with its inscription as yet altogether unread? Was it Maeshowe, with its runic records? or the Ring of Brogar? or the Stones of Stennis, with all their romantic associations? In Ireland, was it the Giant's Ring, near Belfast? Was it the curious fortification known as Staigue fort? Was it the remarkable tumulus of New Grange, with its curious decorations? Was it the ruins of Teltain, or the remains of the Hill of Tara associated so intimately with the earliest of Irish records? He hoped that Bill would be rejected neither by Englishmen nor Scotchmen; and Irishmen surely would not grudge a slight and almost infinitesimal expense for the preservation of these fragments of early Irish history. Indeed, the expense entailed by the measure would be very trifling, the amount, moreover, would be settled by the Treasury and controlled by the House of Commons. Those monuments had passed through great dangers. They had been spared by Roman soldiers, by Britons, Saxons, Danes and Normans; they were respected in our days of comparative poverty and barbarism; in these days of enlightenment and civilisation, of wealth almost beyond the dreams of avarice, they were in danger of being broken up for a profit of a few pounds or removed because they cumbered the ground. If the House allowed them to be destroyed, they could never be replaced.

The House divided, and there voted,

For the second reading	...	...	...	...	187
Against it	...	...	...	...	165
Majority	...	...	...	...	—22

The announcement of the numbers was received with cheers.



"Art on the Waters."

SIR,—In your impression of last week you have a notice of my work in the *Bessemer Saloon*. I conclude it with a regret that I should not have finished my work more as it is on the eye level. I quite acknowledge the justice of your censure, but should like to say in my own justification that the very limited time at my disposal forced me to adopt a less finished character of work than I should have used had I had any choice in the matter.

If you would kindly insert these few lines in your next number you will oblige,

Your obedient servant,

A. SACHEVEREL COKE.

Scotch Schedules and English Quantities.

SIR,—I had hoped that some Scottish practitioner would have taken up the subject of tentative quantities and ultimate admeasurements alluded to in my letter of the 20th ult. on the "Diversities of Architectural Practice." But I was glad to see in your issue of the 3rd inst. Mr. Roger Smith's exposition of what he terms "the Glasgow system." I believe it is one very prevalent, not in that city only, but in all the large towns of Scotland. Permit me to answer Mr. Smith's only objection to it, and to say more exhaustively why I consider it so much more satisfactory to architects, clients, and builders—I may even add to surveyors—than any other method of adjusting contracts known to English architects through the professional press.

Your correspondent very well describes what I cannot but agree with him in considering, the growing evil of over-elaborated London quantities; so overdone as to impel even London builders to "constantly ignore whole columns and even pages" of housings, mitres, stopped ends and returns, seats to mullions, plumbers' dots, door-frame dowels, and the like; but I fail to see how either the use or disuse of these items (trifles that unquestionably minister to perfection) affects the integrity of the Scottish system. To guard his client from any abuse of them, all that an English architect would have to do would be to introduce in his general conditions of contract the almost superfluous provision that "the method of ultimately measuring and pricing the work shall correspond with that of the schedule, or bill of quantities." This was indeed always done in the old days of schedules and measurements. Bad "old days" they were; for, as they provided the client with only a blank list of prices, they enabled any architect to begin building at once with the crudest of sketchy plans, *sans* sections or details of any sort, and the unlucky building rose "promiscuous" in the air; the unluckier owner never knowing its probable, far less its actual, cost till the portentous measured account came in. It was a hideous method of building, this old English one of schedule and measurement, or of "measure and value," and we are all well rid of it. We changed it some forty years ago for the system of lump contracts that, after a few years' use, landed us in the pseudo-infallible quantity system, with all its abuse and injustice. Looking at it in this year of grace 1875, I am far from sure we English architects, surveyors, contractors, and clients are in our reciprocal relations happier than our fathers of forty years ago. Look, Mr. Editor, how our justices, guardians, and building committees open the ball by clipping the fees of the competing architects and quantity surveyors; how the architects too often try to cozen the contractors; and how the exasperated builders turn round on the baited architects! Architecture *per se* is "noble" enough, and architectural practice ought to be a pride and a pleasure; but I would ask any large English practitioner, is it? Listen to his responsive Jerry-miad.

I am one of those who think that, if an architect can find time to render his client that service, he ought, *per se* or clerk, to take out his own quantities, and measure up his own extras and omissions. But, fortunately, it matters nothing to the integrity of the Glasgow (or Scotch) system whether these services are performed by the client's architect, or by an independent surveyor. I will assume the tentative quantities and the ultimate admeasurement are prepared, not by the architect, but by a building surveyor—called, I think, in Scotland, a mensurator; and usually a sworn expert, authorised by the local Dean of Guild Court to practice, in virtue of an examination and certificate—a great improvement on our own roly-poly English plan, by virtue (or vice) of which any one may call himself a quantity-taker. I will, moreover, freely admit that, were every architect to supply the quantity-takers with fully detailed drawings and specifications, literally free of all future change or amplification, the world would hear not quite so much of the defects of the English system. We know that, in the generality of cases, architects do not and cannot supply these perfect documents; they look to mature and re-consider their details as the work proceeds, and they know that, were they to even perfect them before tenders are sought, there is no prospect of their clients' rigid adhesion to them. It is only natural that both architect and client should desire to avail themselves of improved ideas and new inventions that may crop up, ere the final completion of any considerable edifice. In this way extras and omissions become absolutely unavoidable, even under the most favourable of all conditions—the rare eventuality of an architect being ready with every detail (full size) before his design is tendered for. Let an architect mature his details as he may ere the works begin, it is certain that, if he be not so over-burdened with work as hardly ever again to recur to them, he will, as his building goes up, desire to retouch and modify them, though never so minutely; and another thing is certain, it bodes ill for art to fetter an architect so disposed, and to deter him from reconsidering his work by the fear lest the trifling alteration of it should involve his client in an "extra." My own experience leads me to aver that, as a

general rule, every alteration in an English contract, based on our present quantity system, becomes in one way or another an "extra." The builders' prices may not make it one; but, by the super-added application of the surveyor's fees for its cumbrous ascertainment, it eventually becomes one to the client. Then there is, what I will call, the surveyor's responsibility question; to meet which, we are told (reasonably enough), a round percentage ought to be paid for quantities. English benches of magistrates and boards of guardians always bargain for this "responsibility," and in the same breath refuse even a moiety of the professional fee; "but no matter," as the robber exclaims in the play, it is the English system, the custom of the country. The Scotch system of tentative schedules and entire admeasurements makes incontinent no provision, as we do in England, for compelling a faulty surveyor to reimburse a contractor the full value of an omitted workhouse wing, which a board of guardians have had built them gratuitously. It (the system I mean) ruthlessly exacts the ultimate admeasurement of the entire building on its completion, and the equitable adjustment of all moneys at the scheduled prices originally agreed on.

I have said "admeasurement of the entire building on its completion," but here, it is obvious, a very wholesome use of the Scotch system might be made available; to, 1st, the great relief of the architect of the bother of computing instalments; 2ndly, the avoidance of much bickering between him and his builder as to their honest value; and last, not least, the enabling the client to see what is really the growing cost of his building. I mean by the measuring up of the works from time to time, at, say, periods to be agreed on at signing a contract.

One matter more and I will conclude. We hear a great deal in England of the wisdom of introducing an arbitration clause in every building contract, not, say its advocates, a clause to deprive any architect of his right to judge of good or bad work, &c., but to settle disputes as to value of work and materials. It seems to myself the Scotch architects and builders have long ago cannily provided themselves and their employers with this very boon. They need no arbitration clause; nor, indeed, as I hope I have shown, any of the clumsy, costly, and unsatisfactory contrivances by which we are wont to adjust building contracts on our side of the Tweed.

Your obedient servant,

AN ENGLISH ARCHITECT.

Soane Competition, 1875.

SIR,—As reference has already been made, in your columns, to the decision in the above competition, will you favour me with space for a further remark on the subject.

While disagreeing entirely with Mr. Johnson's view of the conditions of the competition, I cannot but think that, under the circumstances, the award is most unsatisfactory. I believe that the course pursued in the adjudication is this: The matter is referred by the council to the "Medals and Prizes Committee" (who are practically the sole judges), and their report being adopted by the Council is then submitted to a special general meeting of the Institute for approval. Now, I take it that this submission presupposes the right of the "special meeting" to discuss, and if it thinks fit, alter or reverse the award of the Council, and, so far, no one can object to the arrangement, but in the case in question this right seems to have been disputed. I am prepared to prove that the general feeling of the special meeting appeared to be opposed to adopting the Council's report, and in favour of awarding the medallion to another design than the one placed first by the Council; and that, practically, it was only out of deference to the Council's objection to have its decision reversed, that the meeting consented to adopt the report, and the fact that that report was modified in one important particular before adoption goes towards proving the truth of my assertion.

I wish to speak with the greatest respect of the individual members of the Committee, but I think that the competitors have some reason to be dissatisfied with the selection. There are members of the Institute to whose award the most unfortunate competitor would cheerfully submit, feeling that, whatever his own opinions might be, the most perfect justice had been dealt to him; and my object in writing to you is most respectfully to suggest to the Council that in future competitions such men as, say, for instance, Mr. Street, Mr. Burges, Professor Kerr, and Mr. Roger Smith, should be asked to act as judges, and that their report (with their names attached) should be published, and should be considered "final, binding, and without appeal," as has been done for some time past in the Architectural Association competitions. There would then, I feel sure, be none of that dissatisfaction, which certainly now exists with regard to the last unfortunate competition, and we should have no more disappointed competitors making angry protests against the "loose dealings" of the Institute.

Your obedient servant,

43 Myddelton Square.

WILLIAM SCOTT.

The Relationship between the Architect and the Workman.

SIR,—There is an important omission in your otherwise accurate, whilst condensed report of my observations at the Architectural Association in the discussion after the reading of Mr. Thicke's Paper entitled as above. By this it is inferred that I spoke disparagingly of the Artisans' Institute, as regards educational work in progress, and the general efforts there made; and I have been requested to address you in order to remove the erroneous impression. My remarks referring to the Artisans' Institute were confined to a condemnation of a dangerous staircase, which, I said, if it were the result of workmen's planning, could not be taken as testifying to ability in workmen to pursue the vocation of architects so far as the designing of buildings. That my observations were understood was shown by a subsequent statement (not reported) by the Rev. Henry Solly, that the staircase, originally defective, had been altered. My views as to the desirableness, for several objects, of explanations at properly-selected times to workmen of the nature of the problem in the case of any building or engineering work in process of construction, along with the particular aims of the architect or engineer, and of the modes in which ends are attained and difficulties solved, as well as my conviction of the value to architects, to

workmen, to the public and the employers of architects, of cordial relations between architects and workmen, are too well known, at least to members of workmen's clubs, to render necessary any expression to them of my approval of efforts at an institution where aims kindred to mine are being kept in view. To professional friends, I may say, I believe that by such instruction as I projected some years ago, and have on several occasions attempted to carry into effect in the manner referred to last year by a writer in the *Architect*—who noticed my efforts—there would be induced, in words of mine quoted in one of the annual reports of the Working Men's Club and Institute Union, "an appreciation of design and directing skill as elements in the production of" work, which, as I have elsewhere urged, would ultimately extend to the public; and produce a general recognition of the importance of the architect's vocation, a conviction on the part of workmen as to the necessity for design and contrivance by duly-qualified hands precedent to the having work to execute, and a love of, and a pride in the excellence of work, that would conduce both to the improved construction and the higher art-character of buildings. But whilst neither in the speeches of the architects, nor in those of the workmen, during the discussion, was there anything but what was in accordance with such views as I have referred to, I would by no means assent to everything that was contained in Mr. Thicke's Paper, more than I could to views that were put forth by certain speakers who were uninformed about business proceedings connected with the erection of buildings, or the provision of dwellings, and about the actual as well as possible relations of architects, builders, workmen, and the public.

Your obedient servant,

6 Claverton Street, St. George's Square, S.W.,
April 14, 1875.

EDWARD HALL.

LEGAL

Hammersmith Police Court.

Before Mr. INGHAM.

CASES UNDER METROPOLITAN BUILDING ACT.—"IMPROPER MATERIALS."

On March 19 Mr. John May, a builder, was summoned before Mr. Ingham, at the Hammersmith Police Court, by Mr. Knightley, the District Surveyor, for constructing the walls of a building in Thorncroft Road, Shepherd's Bush, in a manner contrary to the provisions of the Act.

Mr. Knightley stated the defendant had used mud and road scrapings for the purpose of building the walls, instead of solidly putting the brickwork together with mortar properly compounded of lime and sand in the proportion of one of lime to three of sand.

The fact of having used road scrapings was not denied on the part of the defendant, but he contended that notwithstanding this he had built in strict compliance with the Act, as it did not define what constituted mortar. He produced witnesses, one of whom admitted that the material used for mixing mortar was brought to the premises in slop-carts; and another witness stated as his belief that in cases where pit sand was used it was merely with a view to imparting colouring to the work.

Mr. Knightley produced a sample of the material complained of, which he explained consisted mainly of mud, containing in addition thereto certain animal and vegetable matter, and therefore wholly unsuited for building purposes. To erect houses with this was to deceive the unwary purchaser of house property, and was dangerous to the safety of the public. He proceeded to read extracts from the books of the profession regarding mortar, and submitted that although the Building Act did not specify its component parts as these books did, yet the District Surveyor, who previously to his appointment was required to undergo an examination by the Institute of British Architects as to his knowledge of building construction (of which mortar formed a part), might be deemed competent to judge as to quality, and had a right to expect such mortar as his technical experience led him to demand. He called witnesses who spoke to the inferior quality of the mortar used, and then asked the magistrate to make an order for the demolition of the building.

The Magistrate, however, adjourned the summons for further samples, and on April 8 decided in favour of the District Surveyor. In summing up, he said—"It is an unpleasant duty for me to have to decide in a question of this kind, but I can only go upon what is stated in the scientific books upon the subject, which represent that mortar should be composed of lime and sand only in certain definite proportions. It is admitted by defendant his mortar is not of that character, but that certain ingredients are introduced other than sand. If this were allowed, the field would at once be open for any ingenious builder to import whatever he pleased, and give to it any name which suited him. This sample is not, in my opinion, mortar, and is unlike anything I ever saw before."

He then made an order for the demolition of the building, to the extent named by the District Surveyor in his notice, allowing him the whole of his costs in the case.

General

The Exhibition of Paintings relative to the New Forest will be opened in May. The offers of pictures by artists who have painted in the Forest are so numerous that it is likely to be successful.

The London School Board are about to borrow a further sum of 144,000*l.* (making in all 1,349,145*l.* to be borrowed up to the present time from the Public Works Loan Commissioners). Independently of this amount, 50,000*l.* has been borrowed from the Metropolitan Board of Works for providing schools.

The Copyright, with the lithographic stones, copper plates, and wood blocks used in the production of Owen Jones' great work on "The Alhambra," were sold on Saturday for 200*l.* A copy of the book was sold at the same time for 21*l.*

The Earl of Dalhousie has presented the Faculty of Advocates, Edinburgh, with a portrait of the late Lord Ruthven by Sir John Watson Gordon.

The Duke of Buccleuch is about to restore Barton Seagrave Church, of which living he is patron. The work has been placed in the hands of Mr. Carpenter, and will be commenced shortly.

The Bishop of Ripon stated last week that in the first ten years of the present century the number of new churches erected was 43. In the ten years ending with the year 1870 the number erected was 1,110. Between the year 1800 and 1872 the total number erected was 3,204. During the same period there were 925 old churches rebuilt, which gave them a total of 4,129 new churches added to the Church of England in the course of the present century.

Mr. W. H. Chambers, Deputy Commissary of the Control Department, has patented a receptacle for the storage of explosives and articles of value. It consists of an outer case of iron, within which are—first, a layer of plaster of paris concrete one inch thick; next, two inches of pulverised plaster, then an inch of cork dust; the tests which have been applied, it is stated, show that it is proof against heat, fire, and water.

Messrs. Brown & Albury have been commissioned to design new premises for the London and County Bank at Reading.

Mr. James Dewar, of Edinburgh, has been elected Jacksonian Professor of Experimental Philosophy at Cambridge, in place of the late Professor Willis.

A New Chancel is being erected at the parish church of Cranbourne, in Dorset, and the Marquis of Salisbury will bear the whole expense of the work.

New College and Balliol College, Oxford, have, in conjunction with the authorities at Bristol, agreed to found a new College of Literature and Science at Clifton. It is expected that 50,000*l.* for the new buildings will be raised in Bristol.

The New Parish Church, erected at the expense of the Marquis of Lothian for the purpose of having the old church removed from the nave of Jedburgh Abbey, was opened on Sunday last.

The Wakefield Town Council have decided to build a town hall at a cost of about 20,000*l.* A premium of 50*l.* and of 20*l.* will be offered for the first and second best designs.

The "Morning Post" states that the new House and Colonial Offices in Downing Street cannot be occupied by the employés of the various departments for which they are intended in consequence of an escape of sewer gas.

The Contributions to the memorial to the late Canon Kingsley now amount to 1,058*l.* 3*s.* The committee propose enlarging and improving Eversley Church and the erection of a memorial chapel at Bramhill.

The City Commissioners of Sewers have resolved to apply to the municipal authorities of Paris and New York for the results of their experience of wooden pavements in those cities.

The Metropolitan Board of Works have contributed for City improvements from 1858 to April last 197,826*l.* 7*s.* The estimated cost of the improvements was 434,382*l.* 3*s.* 1*d.*

The Monastery of Irish Dominicans at Beane, having been founded for educational purposes, has been exempted from expropriation by the Italian Government, and thus the valuable discoveries of the earlier Basilica, with its interesting frescoes, and the remains of the house of St. Clement, made beneath the church, will remain under the care of the Prior.

The Alexandra Dock at Newport, the works of which were commenced in 1868, was opened on Tuesday. The length is 2,500 feet, and the width over 500 feet. The walls are of local stone, faced and coped with Cornish granite; they are 18 feet wide at foundations, and 7 feet at top.

The Loddon School Board have recommended the payment of 28,139*l.*, the principal items being 7,400*l.* for the purchase of land, 10,500*l.* for erection of and alterations to school buildings, 6,900*l.* for school disbursements account, 4,000*l.* for repayment of principal and interest on loans, and 3,300*l.* for legal expenses.

The Fine Art Publishing Company intend to publish an album of photographs of many of the most important pictures in the forthcoming Royal Academy Exhibition.

The Edinburgh and District Water Trustees have contracted with Messrs. R. Laidlaw & Son for the supply of iron piping to be used in the Moorfoot Waterworks. The amount of the contract is over 40,000*l.*

The Plans of Messrs. Hay & Oliver have been selected in competition for the new Board Schools at Wellington.

Applications have been received from about forty competitors for a ground plan of the Mansion House and adjoining buildings at Newbury, with the view of sending in designs for the new Public Office, and for the improvements proposed to be carried out at the Town Hall.

The French Government have appointed M. Gavard, French Chargé d'Affaires in London; M. Kleitz, Inspector-General of Highways and Bridges; and M. Lapparent, Mining Engineer, as the representatives on the joint commission upon the projected submarine tunnel between France and England.

The Foundation Stone of the proposed church of the Saint Genevieve, Montmartre, is to be laid on June 29; 2,000,000*fr.* of the required 6,000,000*fr.* have been already collected.

We regret to announce the death of Mr. Wilson T. Piper on Saturday last, in his 46th year. He was well known in London as a builder and a surveyor, and was connected with this journal almost from its commencement.

The Architect.

THE INSTITUTE OF ARCHITECTS: A QUESTION FOR THE ANNUAL MEETING.



ALTHOUGH the architects of the Institute are supposed to meet in conclave once a fortnight, they really meet, as it would seem, for the transaction of business only once a year, like the shareholders of a joint stock company or the subscribers to a charity. The fortnightly assemblies, in other words, are open to all the world, for the discussion of one subject or another in art or science; but the first Monday in May alone sees an assembly of the members, for the reception of an annual report from the Council, and the general discussion of affairs. There attaches to this annual gathering, therefore, a peculiar interest as matters now stand; for the position of affairs is simply this—that the Institute appears to be fast losing its popularity with the profession, as the profession unfortunately seems to be losing ground with the public. Possibly the two circumstances may have some connection together.

But the annual meeting which takes place next month may perhaps be expected to be of a little more importance than usual in one particular way which may be mentioned. As appearances just now present themselves, there is some probability of the usual desultory discussion being fixed upon at least one vital question, namely, the liberties of the members. Last Monday evening certain occurrences took place which it grieves us to record, but which it would be idle for a professional journal to ignore, and in the end the doctrine was emphatically laid down on behalf of the Council that the members ordinarily assembled have no right to do such a thing as even to ask a civil question affecting the transaction of their affairs. Whether this be the law or not is a point which it must be at least important to determine as speedily as possible.

At the meeting a fortnight before, as we learn, one of the private members had jocularly inquired of the Chairman whether the Honorary Secretary was out of health. A certain chair of honour which is his official seat was occupied by the librarian, and hence the inquiry. The interrogator's object evidently was to suggest the greater expediency of its being filled by the gentleman himself who is responsible for the management of the society's affairs; because it is obviously essential that some one other than a paid secretary should be present at such a meeting, for the purpose, if no more, of giving an answer, according to immemorial custom, to any question which may happen to be asked concerning the progress of the general business of the society and the profession. The reply, at any rate, to the inquiry was so far reassuring as to amount to the statement that the Honorary Secretary was in his usual robust condition, but that on this occasion he happened to be engaged elsewhere. No offence was meant, and none seemed to be taken; the only consideration worthy of one's notice being whether the joke was a good one or not, and no man's jokes can be always good.

It happened, however, that on Monday night another of those inquisitive members who are the life and soul of a public association had prepared himself to address to the management a certain question. Some little controversy had been going on, it seems, both in and out of doors, with reference to the award of the SOXBE prize a few weeks before. The Council, in fact, had recommended one of the competing designs (for a town mansion) for the prize, and another for a medal of merit; and the general body had broadly hinted that the second work was quite equal to the first, and had actually so far improved upon the Council's recommendation as to confer upon the second a special although still subordinate distinction. But for the desire to show all possible respect to the Council, it has since been stated that the positions of the two designs might have been expressly reversed. Of course, apart from the mere rivalry of the youthful competitors and their personal interest in the result, this was a state of things altogether to be welcomed; for nothing is more indicative of a healthy emulation than a tie in honours. But at any rate, one of the members of the Institute had conceived the idea of asking the Council publicly, and manifestly in the mere interest of the cause, whether the preference of the first design to the second had been arrived at in any way which it might be desirable specially to explain. With an excess of courtesy which was highly commendable, this gentleman had also communicated to the secretaries his intention to put this question. No doubt he thought this step would prevent the possibility of his intervention being deemed captious, and felt only all the more assured that the reply which he would receive would be so well considered and decisive as to avoid discussion, by showing on the face of it that the responsible adjudicators had done their work thoroughly well although the result might of course be matter for difference of opinion.

Now we venture to say that nothing in the world could be an easier task for the Honorary Secretary of such a society as the Institute than to deal last Monday evening with the two questions we have been speaking of. The Council, he would say, have received notice of an inquiry which one of the members desires to put to them, and which is so and so. Whilst regretting, and yet not regretting, that any difference of opinion should exist upon the award of a prize, they are confident of being believed when they assure the inquirer, and all inquirers, that their work in this case, as in all cases, was performed carefully and with due regard to the best interests of the body and the profession. They cheerfully accepted the improvement which the general meeting was fortunately able to make upon their preparatory decision; and they only regret that the limit which various fortune assigns to the depth of their purse has prevented all concerned from recommending even a still more liberal acknowledgment of the merit of the second prize design. Besides the *actit* which a few observations in some such strain as this would have conferred upon the whole affair, the opportunity which would have been afforded to the inquisitive member to reply with even greater effusion of generosity may be estimated at a still higher value. Then would have been the auspicious moment for Mr. Honorary Secretary to pluck out whatever sting might have been left by the question put on the previous occasion respecting his absence. He was also reminded, he might say, of the circumstance that an affectionate friend had been so good at the last meeting as to express a little transitory anxiety regarding his health. On that occasion, if the truth must be told, he had been actually seeking health by means of a little of that relaxation from the labours of professional and official life which he hoped every one in that room might be expected to appreciate. Circumstances over which he had no control, and did not desire to have any, had brought him an invitation which it would have been too discourteous to decline; and the only thing which seemed to him to demand an expression of his regret was the absence from that distinguished company of the kind friend who could not help observing his own absence from this.

By what process of perversity it came about may ever remain a mystery, but we have to record with no little astonishment that, instead of adopting some such genial course as we have here suggested, it had seemed wise in the eyes of the Council to prepare not only the Honorary Secretary, but a couple of the Councillors, and the worthy President himself, to fling in the face of the meeting the astounding proposition, said to be derived from the by-laws, that no questions of any kind ought to be answered, or even tolerated, and that the question about the Honorary Secretary's health was an impertinence. In other words it was imperatively laid down that the fortnightly meetings must not concern themselves in any way with what affects the management of affairs, and that all inquiries addressed to the officials must be reserved for that opportunity which the one annual general meeting so fully affords. It is scarcely to be wondered at that notice was given on the instant for raising the whole question at the next annual meeting of the administrative management of the institution.

In anticipation of the debate which may be expected to wax somewhat warm on this subject, we would only take leave to point out the principle that a mere reference to the letter of abstract by-laws can never be enough to confirm this most dangerous doctrine. Any by-law which is understood to lay down such a rule of practice would be simply void as *contra bonos mores*. If any question that happens to be offered is in itself offensive, an English assembly, even of uneducated men, can always be trusted to reject it on that plain ground. If an answer would be inexpedient, such inexpediency is a fair and sufficient reason for declining to entertain it. If the questioner shows a disposition to waste time, the chairman can peremptorily prevent the waste of time. If the mere manner of inquiry is injudicious, the meeting, independently of even the chairman, will certainly resent it. Not only so, but the very slightest indication of officiousness, or fussiness, or disingenuousness, or mere inquisitiveness, would inevitably bring upon the offender the displeasure of his hearers. The *lex non scripta* of questioning is thoroughly well understood, and its application thoroughly well administered. But to lay down the rule that a member of a public body has no right to put a question to the executive at any other meeting of the body except one annual meeting is a thing not to be thought of with patience; and to attempt to justify such a proposition by appealing, as was done on Monday evening, to the letter of a by-law, is surely as unwise in effect as it is unconstitutional in principle. The utmost that can be said for such a by-law, if it really exists, is that it is meant to strengthen the hands of a chairman in occasionally preventing an abuse of the otherwise undoubted privilege of questioning; and, as matter of fact, every one who has been in the habit of attending the meetings of the Institute of Architects must well know that the cordial answering of such questions as could be properly answered has always until now been one of the most interesting and pleasing incidents amongst the transactions. The genial loquacity with which, for a quarter of a century, Professor DONALDSON, always at his post, was wont to carry on this part of the work, surely is not yet entirely forgotten; and if the sad silence which is now substituted, instead of being an accident, is to be actually enforced as a principle by official hectoring, it is impossible to avoid the conclusion that matters are even worse than they seem.

THE ARCHITECTURE AND COSTUME OF SHAKESPERE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

Twelfth Night.

ALTHOUGH the action of "What You Will" is directed or ascribed as taking place in a city of "Illyria," there are but few words in the text which give anything like a Dalmatian complexion. If we accept "Illyria" we have a city or seaport of the Venetian Republic under the local government of a duke, or, more correctly, a count, this last being the title given him by the law officer who arrests ANTONIO. Two passages—one referring to this arrest, the other to the Count's galleys and a sea-fight in which they were engaged—are almost the only things, apart from the proper names, which could interfere with the action if we preferred to remove it to England, for the spirit of this play as compared with the other Italian plays is thoroughly English. Although, however, the contrast between the Earl of SOUTHAMPTON and a boozing English knight might be *really* as great as that between the polished Italian noble and Sir TOBY BELCH, yet the *apparent* contrast is no doubt greater in the latter by virtue of the difference of nationality.

The time of the action is that of the production of the work, which must have been between 1598 and February, 1602.

There are in all eighteen scenes, including four in OLIVIA's garden and two at the sea-coast; this reduces the architectural scenes to twelve, from which, setting aside the repetitions, we have—

1. An interior in the Count's palace.
2. An interior in OLIVIA's house.
3. A street before OLIVIA's house.
4. Another street.

It is quite possible to treat this play for the modern stage as I have already treated some others—that is to say, dividing it into acts, each containing one set scene, as thus—

- Act I. OLIVIA's house—an interior. (Act i. Sc. 3 and 5; Act ii. Sc. 3.)
 Act II. The Count ORSINO's palace—an interior. (Act ii. Sc. 2 and 4.)
 Act III. OLIVIA's house—exterior and garden, with a garden-house. (Act ii. Sc. 5; Act iii. Sc. 1, 2, and 4; Act iv. Sc. 2.)
 Act IV. The street before OLIVIA's house. (Act iv. Sc. 1 and 3; Act v.)

The sea-coast scenes and those in the Count's palace, not here included, may be described, so far as they relate to the plot, either by the characters or in a prologue, or the coast scenes may be retained in their entirety where there is a good proscenium, and acted before the curtain or act-drop, which should then of course be painted for the purpose.

The architecture of the palace of ORSINO and of the Lady OLIVIA's house may be Renaissance or Gothic or both. We have no special locality or town to consider, and, therefore, we cannot strictly follow any old examples. Our business in Twelfth Night is to compose or design the architecture in harmony with that which obtained in a Venetian town on the Eastern coast of the Adriatic about the year 1600. This is the work of an architect as well as of an antiquary, and there are various ways of doing it; but there is more than this, for in planning the scenes it is necessary that the architect should understand something of the requirements of the stage, and of the *business* of the action, or the best design in the world may result in failure. Stage management, or the "business," as it is technically called, is one of the colours on which the dramatic picture depends; scenery is another; costume another; and the choicest tints, the high lights, the jewels of the picture are to be found—or should be found—in the expression of the actor's voice, face, and figure. But the *whole* batch of colours and tints must be as one in their treatment if we wish to see a play rendered fitly. For one man to design an interior for OLIVIA's house with no control of or understanding as to the stage management; another to arrange the business of the action in total ignorance of the inner arrangement of an Italian mansion, or of the uses of its several parts; for one to paint the walls knowing nothing of the colours of the costume; another to design the dresses utterly indifferent to the colours of his background; are the happy-go-lucky processes usually employed on the English stage, and any success that may result from the adoption of such ways and means must necessarily be of the nature of a fluke. If we really want to progress in these matters, the first step is to accept the dictum of MACREADY—"No actor should be a manager." This strikes at the very root of the compound system of ignorance, mystery, envy, and egotism under which the dramatic and histrionic arts languish, flickering up now and then by the special help of some exceptional individual with, I will not say false, but misleading brightness.

The costume need not detain us long. VECELLIO will still be a faithful servant to us here as before if we only treat him properly. The text, too, refers to a number of interesting details. We are told that Sir TOBY BELCH is dressed in a rough country style, having on his feet strapped boots, and Sir ANDREW AGUE-CREEK has a weakness for dark crimson (damaak) stockings. In the 5th Scene of the first Act we see one of the *uses* of the lady's veil that occurs so frequently in the illustrations of VECELLIO. The steward MALVOLIO has a gold or

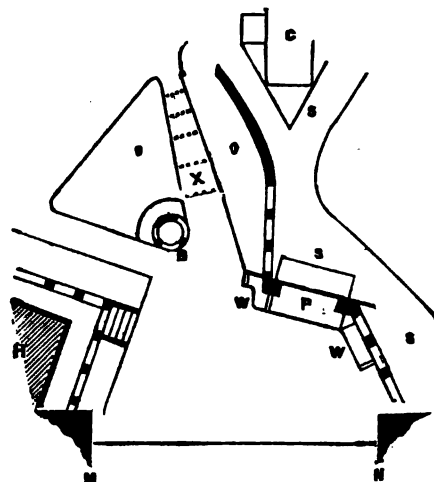
silver-gilt chain, a "branched velvet gown," i.e., one with a broad branch pattern, a watch, rich jewels and yellow stockings cross gartered, although in the beginning of the action his stockings, trunk hose, and doublet would probably have been black. Besides this we have a doublet of changeable tafata, cheveril or kid gloves, and miniature portraits worn as jewels. There is a special reference to the great bed of Ware; mention also is made of the extravagantly carved chests of the time—"trunks o'erflourish'd by the devil," the relics of the town, its "memorials and things of fame" are recorded as worthy examination, and there is just one touch on architecture in the Scene where MALVOLIO, locked in the inner room, complains of its hideous darkness, and the clown replies "why it hath bay windows, transparent as barricades, and the clear-stories towards the south-north are as lustrous as ebony."

Much Ado about Nothing.

Much Ado about Nothing contains in the first scene sufficient to show that the Spaniards and Italians who there return to Sicily "from the wars," must have been contemporaries of CHARLES V., FRANCIS I., and HENRY VIII. My notes on Henry VIII and the Two Gentlemen of Verona may thus be taken as being more or less illustrative of this play. The town of Messina is the place of the action throughout the comedy, and the scenes, though numbering seventeen, may with care be reduced to four arranged in six Acts, a liberty that may perhaps be allowed as the first quarto shows no division by means of Acts. The arrangement I propose would be as follows:—

- Act I. The garden, including—1. The garden, orchard, arbour, and portion of the house or palace of LEONATO, the Governor of Messina; 2. The street outside the garden; 3. At the back the exterior of the church.
 Act II. A hall in LEONATO's house.
 Act III. The garden (in two scenes).
 Act IV. The inside of a church.
 Act IVa. The prison.
 Act V. The garden (eliminating the third scene).

How the garden Scene is to be arranged so as to include, besides the alleys and the arbours, the street for the watch and the pent-house for CONRADE and his friend, can best be seen by reference to the annexed diagram, where M N is the proscenium, s the street, p the



penthouse over the gateway leading from the street to the garden, o the orchard, b "the pleached bower where honeysuckles ripen'd by the sun forbid the sun to enter," x the "thick-pleached alley," h the house with a covered arcaded terrace round it, w seats fixed, and c the church where the watch sits till two in the morning.

To understand the architecture of Messina, and therefore that suited to the play, it may be as well to turn for a moment to the somewhat singular architectural history of Sicily. The earliest buildings of which any remains exist are Doric-Greek, to these succeeded works bearing successively the distinct marks or influence of 1. Carthage; 2. Rome; 3. Byzantium; 4. Arabia; 5. Normandy; and 6. Mediæval Italy. Through all, however distant, the spirit of the earliest—the refinement of the Greek—was made manifest, so that in looking at the twelfth and thirteenth century Gothic of Sicily we are not looking at what is commonly known as Gothic, but at a Greek translation of it, for through all her manifold changes, in spite of varying fashion, the island felt to the last the calm simplicity, the refined strength of her first Dorian lover, and through all the excitement which for centuries raged round her, in the whirl of conquest and the confusion of the rising and falling of nations and commonwealths, she never once wholly forgot him or forsook him. Here and there his influence may be said to have declined, as in some of the towns of her northern coast, where the architecture has a Romanesque, Lombardic, or even Provençal tone about it; but on the south side of the island the memory of her first civilisation haunts her to this day. Now Messina is on the northern coast, and its mediæval architecture is therefore, as I have just now said, more Romanesque and less Greek

in its spirit than what it would have been on the other two coasts. Messina, we must not forget, is a cathedral town as well as a sea-port, its mother church, like that at Monreale, is built upon the basilican type, and, at the time of which I am writing, was not far from being a fairly accurate Romanesque edition of its southern neighbour. The buildings were constructed of white stone, whether they dated from an early or late time, but they looked much whiter than they really were from the powerful contrast afforded by the dark woods which formed the background to the city on one side, and the deep colour of the Mediterranean, which relieved it, on the other side.

LEONARDO's house may, then, be Romanesque, or Gothic, or Renaissance. The last-mentioned style is that which seems to me to be the most probable, and consequently his hall would be not far removed in character from that of BAPTISTA MINOLA.

The inside of the church need not trouble us; there are so many careful and measured drawings published of the churches of Sicily, that the true portrait is almost as easy to be attained on the stage as the caricature we have hitherto seen.

The prison scene may very well be the means of illustrating the early Romanesque architecture in its fortified aspect; and about this, too, there is not a shadow of difficulty.

The references in the text to accessories afford a further contribution to the lists of articles of wearing apparel, furniture, &c., given in my notes on other plays, thus:—

"He wears his faith but as the fashion of his hat; it ever changes with the next block." (Act i., Sc. 1.)

"The body of your discourse is sometime guarded with fragments, and the guards are but slightly basted on neither." (Act i., Sc. 1.)

"What fashion will you wear the garland of? About your neck, like an usurer's chain? or under your arm like a lieutenant's scarf?" (Act ii., Sc. 1.)

"I have known when he would have walked ten mile afoot to see a good armour; and now will he lie ten nights awake carrying the fashion of a new doublet." (Act ii., Sc. 3.)

"There is no appearance of fancy in him, unless it be a fancy that he hath to strange disguises; as to be a Dutchman to-day; a Frenchman to-morrow; or in the shape of two countries at once, as a German from the waist downward, all slops; and a Spaniard from the hip upward, no doublet." (Act iii., Sc. 2.)

Among the habits or manners of the young lover of this time we find that he brushes his hat every morning, shaves close, rubs himself with civit, washes his face and paints it. But the most detailed reference to costume is in the fourth Scene of the third Act; here we have a little discussion between the lady and her attendant on the style of the rabato (the neck-band, ruff, or collar), the colour of the false hair and the tire, and then follows great praise of HERO's wedding dress by the side of which the far-famed gown of the Duchess of MILAN was "but a night-gown," although it was made of cloth of gold, slashed and laced with silver and set with pearls, having "down sleeves" (trunks) and "side sleeves" (hanging sleeves) and akirts round, underborne with a bluish tinsel. This same lady, who so eclipsed the Duchess of MILAN, wears gloves of excellent perfume, which she tells us were a present from the COUNT, and were no doubt made of *cheveril* or soft kid, excellently stitched, and embroidered with gold or silver thread: in fact, a rather important sort of gift.

But rich gifts—soft kid, pearls, gold, and the rest—wax poor indeed when actors and actresses, absorbed in the finery of their situation, sink to the level of little more than lay figures for the exhibition of fashions. In ordinary every-day life, the people who represent on the stage the fine dame, the noble duke, or the foreign potentate, are so little accustomed to art, or anything like good style in living, that it is with difficulty they can appear unconscious of their stage surroundings. Every movement of their bodies says plainly "this is a very telling sort of dress, and no doubt it must arrest attention; but I never wore anything like it before." Even in modern comedies we see the weak actress dominated by the sheer material force of millinery, and in the revival of old plays, when fairly genuine costume and scenery approaching reality are produced, the mass of actors and actresses simply look imbecile. We give them the benefit of the doubt, and assume that they are inside the clothes, but they certainly do not wear them. The human form becomes at last a mere peg, with four movable peglets fixed in it, and costume is thus too frequently brought into ridicule by the ignorant, and made the scapegoat for the incapable player. Scenery and costume we want to see progress until both shall be so natural as to be unobtrusive; but still more do we desire to see some signs of progress in those who stand between us and the past, as the living illustrators of the manners of that past, and the interpreters of its mighty dramatist.

An Exhibition is to be opened next month at the Gallery of M. Deschamps, New Bond Street, in aid of the House of Charity, Leicester Square. A large number of paintings and drawings by French artists have been lent. The manufacture of Sèvres will be represented by some beautiful table sets and by some busts in biscuit, that of Marie Antoinette, taken while young, being a very remarkable example. Specimens of the finest French typography will also be offered for sale, and for the first time in England there will be an opportunity of purchasing the "History of Paris," published by that city and now out of print.

"MODERN ARCHITECTURE AND ITS ASSAILANTS."

THE articles on architects and their work, which appeared within the last few years in the *Quarterly Review*, may not have been truthful in statement or conclusive in argument, but it must be admitted that of all articles published lately they have suggested the most discussion. Hitherto the replies to them have been more or less professional, but there is some satisfaction to find that at length the *Edinburgh Review* has had the courage to undertake the defence of English architects. The new number contains a long article under the title of "Modern Architecture and its Assailants," which, if not more effective as a reply than those we have already heard or read, is at least remarkable for the strong language which is applied to the *Quarterly* articles.

The writer commences by showing the importance of works of architecture. "The edifices of a country," he says, "are the positive, visible, and permanent expressions of the civilisation of its inhabitants," and, apart from the ravages of war, the chief structural monuments have a tendency to endure until they become subject to geological change. Then structural fabrics reveal very much of the nature of the race that reared them, and turn where we will "the relics or the fresh results of the toil of the architect give a faithful reflection of the state of civilisation, culture, and comfort common to his country and his age."

It is then shown that architecture embraces the two ideas of science and art, and that the science is on one hand akin to that of the engineer, and on the other with that of the sculptor, as it "relies on the subtle relations of exact numeric proportions;" and from this the writer passes on to the subject of training, and, as will be seen, he has not the aversion of the *Quarterly* reviewers to the drawing-board. He says:—

"While admitting that it is as proper to recognise the existence of a natural genius in the case of architecture as in that of any other fine art, or of any lofty and noble occupation of the human intelligence, we cannot doubt that for the architect, as for every other artist, there is a special form of education expressly suited to the development of excellence. Nor can there be any hesitation as to the alphabet and primer of this course. Whether attaining its final expression in marble, in wood, in stone, or in any other substantial material, architecture possesses, in common with the sister arts, the characteristic of being graphic in its origin. As such, it holds rather to the graphic processes of the engineer and the mechanician, than to those of the sculptor and the painter. With each of these men, the ultimate outcome of their art, the investing of the product of the imagination with material form, is most naturally arrived at by passing through various stages of preparation, commencing with the original sketch. But while the first sketch of the painter, in crayon or in pencil, or that of the sculptor in clay, is rough and undetermined, and the subsequent labour of the artist is directed to the attainment of gradually increasing precision of outline, and harmony of composition, with the engineer and the architect the process is reversed. He who designs any structure has first to lay down the extreme limits of his work, and to determine the leading dimensions and proportions. From these, as the various requisites are successively determined, in the order of their respective importance, the plan of the work gradually forms itself into consistent detail. Something approaching the organising power of Nature herself is thus attained by the well-considered work of the draughtsman. As he descends into detail, his draughtsmanship will divide itself into the two main branches of design, the theoretically accurate, and the æsthetically well-proportioned. In both these branches the immense advantage is possessed by the architectural draughtsman, that he starts from fixed principles; and that therefore his work, if luminously designed and skillfully wrought out, resembles a growth rather than a manufacture.

The more important the building, whether in size or in complication of purpose, the more needful is the use of the drawing-board. The graphic method of study requires successive gradations of detail, from the rough, picturesque sketch, in which the dream of the artist first takes shadowy form, to the full-sized working drawing or template, by aid of which the mason hews his quoins. Each such step represents a saving of labour, by the application of provident thought. It may be possible, indeed we could cite examples of the fact, to construct a building of considerable size and complication without complete or adequate drawings. But to attempt to do so is only to work under unnecessary disadvantage; to augment cost, to protract delay, and to transfer to every step of the actual construction that tentative process, often involving the abandonment of details first proposed, which the competent architect has carried out, in the most convenient and efficient mode, by the proper use of the drawing-board.

All this is so simple, so certain, so accordant with the first principles of composition, whether structural or æsthetic, that to the artist, or to the man who possesses any competent acquaintance with the rudiments of art, our language may seem to approach the character of truism. But it is the function of literature, and especially of the higher class of periodical literature, not to dazzle, but to instruct. The general reader looks for definite and reliable information, freed from the husk of technical language, in pages like our own. And when such a reader, knowing little of the subject of architecture except in its literary aspect, and perhaps practically only too fully aware how much our domestic building is in want of very stringent reform, hears the blame of all that annoys him laid at the door of the professors of architecture, he will be apt to think the accusation must be serious and well founded. He will lose sight of the real causes that add such discomfort to our urban life, to the struggle between the desire for cheapness, and the love of show; the need to build houses of which the rent shall be moderate, coupled with the fact that few or no houses would be built except for the sake of the profit made by their

builders. Such a reader will be glad to ascertain, and he has a right to the information, what is the true function and office of the architect; and what is the method of the education that fits him to assume that respectable title.

It is not unknown to those who take an interest in the arts of design, that we have recently witnessed numerous efforts, both on the platform and in the less reputable literature of the day, to depreciate all systematic study of art, or of literature, to the advantage either of self-constituted amateur critics, or of the totally uneducated, who are erroneously called the working men. The motive of these diatribes is as old, at least, as the time of *Æsop*, and has been appreciated by that inimitable sage in the fable of the fox who had lost his tail. But the instances of disinterested counsel which are most numerous amongst ourselves are even of more transparent simplicity. They are rather those of animals who, never having been provided with a tail to lose, are none the less bitter against all furnished with that appendage. It is as though the *Manx* cat were to uplift its angry protest against the pencilled tips, or squirrel-like brushes, of the *Angora* or the *Persian*. That grotesque quadruped may be represented as thanking Heaven that it was not as other cats are, and promising the entire extinction of the mouse tribe so soon as all other mousers should be divested of their tails."

The latter paragraph is an example of the hard hitting which occurs throughout the article. The writer then considers the proposal to substitute models for drawings, and he gives one instance from the history of the Birmingham Railway to show that the former have not the advantages that are supposed to belong to them. In this case the directors expended 500*l.* on the model of a first-class carriage, but no good was obtained by the outlay. After this the articles in the *Quarterly* are grappled with, and, as will be seen from our extract, most vigorously:—

"It has been with unfeigned regret that we have seen in the pages of a contemporary, whose traditional character was wont to be wholly conservative, not only one, but a series of essays which respect for our readers forbids us accurately to characterise. Taking modern architecture as a text, they assail, in the same unhesitating manner, almost every name, ancient or contemporary, which has had the disadvantage of provoking citation. Nor are architects alone the subject of abuse. English law and lawyers, the tenures of land, and the rights of property, come under the same ban; while the art, the science, and the welfare of the future are referred to the imaginary guidance of 'the inspired workman.' Such pages are not among those to which a serious reply is given. But on the part, not of architects or artists, who may rest contentedly in the company with which they are ranked, but of the higher and graver literature of the country, and of the moderation of tone which is an inseparable element of gentle breeding, we deplore the application of pages which were wont to be critical, demonstrative, or imaginative, to the reception of sensational writing of the least profitable order. Men of letters, and all who appreciate the part which men of letters take in the progress of civilisation, have occasion to view with grave disquietude the strange faces that have been lately suffered to gesticulate from the tribunes of periodical literature. Controversial declamations, which may be very successful in the pulpit or in the House of Commons, are strangely shorn of their prestige when they are foisted into the pages of a literary journal. Deprived of the life given by the eye, the tones, and the gesture of the speaker; and deprived, on the other hand, of that silent but masterly editing which is supplied by the practised reporter; such productions can but ill support the patient investigation of criticism. Weak points cannot be adroitly glided over; strong assertions cannot be hazarded without proof; declamation cannot safely be substituted for argument; when the orator trusts to the ministry of his own pen. Great reputations may be thus torn to tatters, with no other result than that of exciting wonder, unalloyed to admiration; and of selling a certain number of editions of journal or of pamphlet. When the conductors of any reputable journal allow themselves to offer to the public letterpress which they hope will sell, but which they must know cannot live, they offend against the guild of letters, and commit a fault which, as affecting both that guild and the public, is not only a literary crime, but a literary blunder.

A further mischief attends this want of self-control. In a general and indiscriminating attack on any institution, class, or body of men, it will necessarily happen that what is amiss among them will be blamed, as well as that which is not amiss. But the disgust of the impartial looker-on will blind his eyes to the distinction; and thus it always happens that errors and defects, which a lucid and kindly criticism might aid us to eradicate, are only rendered more inveterate by the language of abuse. For this reason we feel ourselves compelled, although much against the grain, to refer to one or two points on which, not in one essay alone, but in the connected efforts of a small but noisy party of dissatisfied men, admitted truths have been made use of as the mounting-blocks for pestilent errors.

The art of the past is summarily condemned, in the pages in question, by a criticism that is, at all events, unhesitating. We are told that 'if the modern workman could get rid of his desire for all the many curses of our modern civilising arts' (we omit the constant, useless, and irritating insertion of turned commas used to indicate the points thought by the writer to be clever), 'and would simply work, and make a steady study of his work, he would invariably rival, and in some respects he might surpass, the glories of the Parthenon itself.' As 'our present working classes are profoundly vulgar,' these glories are lightly prized. But it is hard to tell where to look for any thing better. 'Wherever work that may be called Vitruvian has been done with demonstration of imaginative power, the good has been done in spite of all that Vitruvius has ruled.' 'The subtle curvatures in the lines of a Greek temple, and the ornamentation, not casual or fortuitous, of a Gothic church, are the direct expression of the working men of various grades.' 'The work at Winchester that William of Wykeham directed is but a desperate collapse of art. He touched nothing that he did not deface.' In 'the mechanical and hasty method of

design now called the Perpendicular and Tudor styles,' 'the ideas are superficial,' and the work 'has neither individuality nor true poetic feeling.' 'Dudley and Empson, and their royal master, are the moral illustrations of the Tudor style.' 'The tower of Giotto, at Florence, was a genuine conception of the committee-mind, and Giotto was engaged to decorate the folly, for which he made a superficial false design after the manner of a wall decorator,' which 'is exquisite, but it is not architecture.' 'The interiors of the churches and chapels after the Lombard period are for the most part miserably poor, both in conception and detail.' 'At Florence, surface marble work, from the mean particoloured panelling of the Duomo, to the lavish expenditure on the Chapel of the Medici, is a pure luxury without disguise.' 'Stone and the inspired mason were neglected.' Michael Angelo, 'at clerical suggestion,' sometimes 'left his special work and aptitude to make designs for building.' 'The Farnese Palace has, no doubt, a handsome elevation, that is to say, it is agreeable to look at for a moment, and then to be well rid of; who can help pitying the owner of that dismal cube of stone work?' 'The architectural painting on the Loggie ceilings in the Vatican shows how little Raphael had discovered of the sense and scope of decorative art. Both Michael Angelo and Raphael were in some things servants to the fashion of the day.' 'From St. Peter's to the latest building of New Rome, Italian architecture is but a dreary evidence of luxury, a record of expenditure and folly.' Cologne Cathedral 'is a gigantic folly, and a total waste unless it proves a warning.' The details of its projected spires afford 'clear evidence of draughtsmanship and of imaginative incapacity.'

Architectural draughtsmanship, if attempted by such bunglers as Giotto, Raphael, or Michael Angelo, is spoken of as the expression, if not the cause, of this incapacity. But in 'the latest instance of true building master-workmanship, the Porticelli Club, 93, Regent Street, Westminster,' 'the whole of the plans and elevations have been drawn by one of the members, and thus the little front is much more satisfactory and respectable than the Charing Cross Hotel, or the Royal Academy facade.' This shows 'the return to sanity in art,' by a very short and easy way. Just seven hundred years earlier, when William of Sens 'went on preparing all things that were necessary for the work' of Canterbury Cathedral, down 'to the latest forms of working drawings, the construction of ingenious machines, and the delivering of moulds for shaping the stones,' we are told, as a proof of his independent mind, that 'we hear nothing of his drawings.' It would puzzle the 'inspired workman,' as much as 'the emancipated workman, gloriously impelled,' to guess how working templates could be prepared, except as the last details of an intelligible and well-considered set of designs and working drawings.

It is difficult to guess in what connexion or capacity the bestower of such impartial and widespread abuse has attained the extraordinary pre-eminence from which to look down on Greek, Roman, Italian, and Gothic architects alike; to ridicule their blindness in not having 'discarded instruments and kept to tools,' and to discover the hope of English architecture in that 'inspired workman' who is at the same time 'profoundly vulgar' and 'gloriously impelled.' That such a writer has not had that tradition of Art which he so intensely hates handed down to him through the ordinary channels, it is not needful for him to state. As 'the whole class of working men is sunk into the lowest state of mental and imaginative feebleness,' the inspired light can scarcely have emerged from a class 'impotent in all that concerns their actual work.' Outside the rank and file of the builder's craft, we are told that in 'their architectural affairs our sapient Englishmen are mostly fools.' Thus the only passage in which courtesy will allow us to suggest that the author has indicated his own status, is that in which, speaking of the *dilettante*, Mr. Fergusson is quoted as remarking, 'they do little good to artists or to art; but, on the contrary, much harm, by bringing artists down to their level.'

We cannot but regard it as below the dignity of serious literature to defend the architecture or the architects of the present day against an attack which so impartially bespatters all that is traditional or elevated in art. We can only express the perplexity we feel as to the cause which can have induced our respected, and once conservative, contemporary to give publicity to essays so germane to the ideas of the *International* that they seem actually to smell of petroleum. The Barrys, and Scotts, and Waterhouses of the day may be content, while noting that utter want of reverence and modesty which is a sure mark of want of true knowledge, to cite the line: 'By whom to be abused is no small praise.'

The *Quarterly* reviewer referred to the attempts at launching the "Great Eastern" steamship, as showing the disadvantage of not entrusting important operations solely to the working men employed on them. But it is now stated, we believe for the first time, that the obstruction to the launch of the vessel arose from Mr. Brunel having directed the breaks to be applied as soon as motion was observed, out of fear of the consequences of the surge of the vast structure to the crowd of sightseers that covered the river. The launching ways were wrenched by the powerful breaks, and thus through the engineer's humanity the obstacle arose which has so often afforded a subject to flippant writers. The *Edinburgh* reviewer then refers to the ability which is ascribed to working men. He shows that many of the mechanical inventions for which patents are sought by working men, are crude, old-fashioned, or impracticable, while in the workmen's exhibitions, like that at Illington, "it might be thought that some of the exhibits were actual relics of the rudest time of art in this country." The hope of English architecture lies, therefore, in the improved and systematic culture of the most elevated minds as opposed to the rude energy of the less educated.

The only part of the question which, it is said, is really in doubt may be found in the distinction between the two meanings which may be attached to the word "imitation." There is an imitation which is slavish and mechanical, but there is also one which Aristotle has described as the

main spring of art, and if the study of past works is necessary in other arts, it is no less so in architecture. As the reviewer says:—

"In regarding, then, the true method of directing to the improvement of architecture that cultivated intelligence from which alone, as Mr. Ferguson justly argues, a true progress can be expected, it cannot be admitted that any serious question exists as to the general character of the appropriate method. The intelligence of the architect of to-day must be conducted, step by step, along the *via sacra* defined by the monumental works of his greatest predecessors. The history of his art, written in wood, in brick, in stone, and in marble, must become a portion of his intellectual knowledge. Nor is this knowledge to be acquired by the eye alone. No genuine knowledge of any art can be attained without some use and culture of the hand. First at the drawing-board, by rule, and scale, and compass, must the student practically acquire an intimate knowledge of the anatomy of structure. With the study of the details of the noblest works, must be blended a mathematical analysis of the questions of weight, of thrust, and of stability. Nor will the study of the drawing-board suffice. Actual building must yield actual experience. No critical knowledge is complete without the control of the live experience of practice. Thus the educated artist, who should be at once the *τέκτων* or the *πομπή* of the Greek philosopher, and the accomplished scholar of the French philosopher, will bring to his task the full knowledge of what has been accomplished in his art, joined to the perfect command of his own artistic faculties.

When this is done, the work of such an artist will be imitation, in the sense in which the word is used by Aristotle, but not in the sense in which it is illustrated by the work of a Chinese workman. The accomplished master of his art will be equally removed from the danger of slavish apeing, on the one hand, or of vague blundering after originality, on the other hand. His guide will be truth. As under no circumstance is it to be expected that the conditions of any single building, of any great importance, will be the same with those of any preceding building, so no architect of genius will attempt to reproduce, in its exactitude, the work of any predecessor. But as each of those works to which he looks as the best examples of the application of a true science, and a true aesthetic taste, in its adaptability to the special purposes for which it was built, marked a step in the progress of architecture, so will each new work, if regulated by the same principles, form, in its turn, a step towards future excellence. So far as conditions are unaltered, the wise builder will be contented with the mode in which they were dealt with by his most illustrious predecessors. So far as they are new, they will be provided for by him, in his turn, under the guidance of the same spirit. If truth and natural fitness be in this way made the guides of the practice of a man of cultivated taste, the excellence of his work will be in proportion to the vigour of his genius, but the mean, the meretricious, the debased, will be alike impossible.

The conception of an age or condition of society as altogether artificial and imitative, devoid of any central motives for progress, in which men are reduced to pilfer, without even the judgment to select, from the relics of the past, is one, to our view, which is altogether visionary. Least of all does it commend itself as a suitable description of the present age. And yet, if the views so strenuously urged as to the decadence of architecture amongst us be correct, we must either be in this shiftless condition, or the structural work of the day must, in some unexplained manner, have ceased to be a reflection of the stage of civilisation from which it sprang."

The article then enters upon a retrospect of some of the architectural work produced in England since the Gothic revival, and concludes with the following observations on the conditions of the architecture of the future in England:—

"With reference to the architecture of the future, it seems to be the part of wisdom to defer remark until something definite make its appearance. But it is another matter to glance, not so much at the direction in which anyone may be of opinion that progress is most desirable, as at the limits within which every architect, who is aware of the conditions imposed on his work, must necessarily conduct his study.

All human architecture, with the exception perhaps of the megalithic work of the extinct cromlech builders and their allies, may be traced back to the three mother ideas of the tent, the hut, and the cave. Among the descendants of the wandering nomads of the great Asian plains we find the tent reproduced in the porcelain of the Chinese pagoda; and the same principles of structure lent a peculiar grace to the Arabic modifications of arched design. The Aryan peoples appear to have been the early hut-builders. The classic architecture of Greece is essentially trabeate, or wooden, in its primary elements, although the command of building stone of rare beauty led to that crystallisation of the orders which assumed something of the finity, combined with more than the variety, of the crystals of Nature herself. But to the present hour the miner, especially when working in shifty and dangerous ground, employs the primitive and convenient forms, not only of the column and the architrave, but even of the abacus, the plinth, and the triglyph. The Aryan tribes of India, on the other hand, have carried the principles of wooden structure, not so much in their constructive as in their ornamental adaptation, back to the decoration of the cave. Many of the principal architectural designs of India are either excavated caverns, or stone buildings, treated in a style proper to woodwork. In Africa, the adornment of the cavern, and its reproduction even under the artificial mountain of the Pyramid, seems never to have passed through the intermediate stage of the hovel. The pyramids are eternal sepulchres, in which the small cavern needed for the protection of the sarcophagus is surrounded by the ponderous mass of an artificial mountain, wrought into the resemblance of a stupendous monolith. In the hypæthral temples of Egypt the ponderous proportions of the columns are the same as in the cavern temples of the same country, and bear a close affinity to the pillars left by the miner in the native rock. From these primary types, the fountains of so many distinct styles, the possession of that light, durable, and easily-cut material, volcanic tufa, enabled the Roman architects to take an independent spring, in the construction of the vaulted arch.

This essentially masonic form, planted, together with the Roman eagles, over Europe, soon evinced its exotic nature. In the Italian climate it is a thoroughly appropriate, and even luxurious element of structure. And therefore, to the present hour, it has maintained its position; being always present, if only in the central gateway, in the more highly ornate palazzo of every Italian style. But in the northern countries, long accustomed to build with the wood of which their forests supplied such ample stores, the round arch never thoroughly acclimatised itself. The course which it took after the intersection of two semicircular arches first produced the groin we have not here space to follow. But two essential principles—one, that of conformity to the requirements of climate, the other that of adaptation to the sturdy qualities of the Teutonic tribes—presided over the whole course of the modification of the arch, in Early English, Decorative, and Perpendicular, work down to its return to a trabeate arrangement in Tudor times. And not only so, but these two principles must, unless some inexplicable change occurs, dominate the theory of all natural and standard English architecture.

The two principles to the happy, if fortuitous, combination of which Gothic architecture owes the picturesque character of its effect in landscape, arise from the independent family life of the Teutonic races, and from the character of the northern winter. The first requires a certain independence of plan. A house must be an abode capable of enlargement, according to increased demand for house-room, but at the same time forming an independent demeane. To occupy a chamber or two in an immense conventual or palatial building is not to the taste of the Teutonic peasant. If he can have but one room, he prefers an isolated hut to a chamber in another man's house. Hence the first distinctive feature of Gothic architecture, its dependence on plan, and its perfect elasticity in adaptation to plan, whether requiring one room or a hundred, unquestionably springs. When we add the second condition—the need to provide for each part of the simple or compound dwelling pointed roofs that should throw off the winter's snow, instead of collapsing beneath any unusual fall—we are able at once to understand the constant variety and never-failing picturesqueness of Gothic structures. It is an architecture that struck root, flourished, and matured, because it sprang from the requirements of the people, under the climatic conditions of the country.

In Italy the round arch, although, as we have shown, never altogether superseded, has given birth to the numerous graceful modifications of the Italian styles. But that neither Italian architecture, nor Classic architecture, has ever fully adapted itself to the requirements of this country, is a consequence in part of the character of our climate, and in part of our immunity from earthquakes.

In England, for eight months out of the twelve, the admission of light, and the retention of heat, are the main requirements of a good house. In Italy and Greece, on the other hand, for fully half the year, the exclusion of both heat and light are the objects chiefly sought. Thus lofty porticoes, cool peristyles, vast domes, and hollow arches, such as give luxurious shelter from Mediterranean sunshine, are so thoroughly out of place in England that, with whatever grace they may be reared, they generally give a feeling of misery, especially in our long winter season. The removal of the Quadrant in Regent Street is a very practical example of the unfitness of a modification of classical architecture for our civic buildings.

With regard to those higher forms of the modern Italian edifices that lend themselves, with much propriety, to the requirements of our domestic life, another remark applies. The Italian architects have ever wrought in the presence of a tremendous power of control, a mighty master-builder, wont to come suddenly and unexpectedly, to test the fidelity of their work. In a word, every building in the greater part of Italy, that rises above the eaves of the hovel, has to be built so as to resist earthquake. A certain massiveness is thus impressed on Italian architecture, for which the motive is absent in this country. Any attempt to reproduce it is a sham. For this reason, as well as for the good climatic reason that demands a peaked roof, it is impossible that an Italian style can be transplanted into our country without modifications which would be, in fact, only the reproduction of the truthful motives of Gothic structure."

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AN ordinary general meeting was held on Monday evening, Sir G. Gilbert Scott, President, in the chair. Some preliminary business was disposed of, and the chairman stated that a letter had been received from Sir Thomas Biddulph, conveying Her Majesty's approval of the award of the Royal Gold Medal to Mr. Edmund Sharpe. He had also received a most agreeable letter from Mr. Sharpe, in which he expressed his high sense of the honour conferred upon him by the Institute.

Referring to the demolition of the Colosseum, Regent's Park, now in progress, Mr. Thomas Morris suggested that the Institute should employ a photographer to take views of the building while the removal was going on. The building was one of exceeding grandeur, and was erected from the designs of an eminent member of the Institute, happily still living—Mr. Decimus Burton. Its name was somewhat inappropriate, for instead of recalling the Colosseum it was rather a reminiscence of the Pantheon, and it combined the majesty of the Parthenon with the superb outline of the Pantheon.

A Paper was then read by Mr. J. Bearington Atkinson on
The Church of St. Francis, Assisi.

The history, and a full description of the Lower and Upper Churches at Assisi, would (Mr. Atkinson said) far exceed the limits of a short Paper, and in addressing a professional audience, he craved indulgences as approaching the subject somewhat from the side of an amateur.

You all know that the double or triple church of St. Francis holds a commanding position. The city of Assisi is planted after the habit of the ancient Etruscans on a spur of the Apennines, and the geographical and geological, not to say the military conditions, have naturally influenced

architectural construction. In no other country in the world do the forms of outward nature lend themselves so kindly to the exigencies of structural and decorative art.

The Lower Church was commenced in 1228, and finished in 1234; the Upper Church did not reach completion till 1253. The architect was a German, called by the Italians Lapo, with whom seems to have been associated an Italian monk of the order of St. Francis, Fra Filippo da Campello. Limits of time forbid details, but the following points may be briefly noted. First, the extent and the early date of the Gothic movement which swept over and occupied the plains, valleys, and hills of the Apennines. In my recent tour I have again been struck with the abundant and luxuriant growth of the pointed arch and its cognate ornament, not as an exotic coming from afar, but apparently as much at home and acclimatised as the acanthus—not employed for ecclesiastical purposes only, but entering into the structure of humble dwellings in the narrowest streets—not established at great centres and chief capitals exclusively, but finding a footing in the outlying towns. In this complex Italian development the churches of St. Francis, and the sister church of Sta. Chiara at Assisi, stand as early and simple examples. It has been truly said that Assisi was as a light set on a hill for art no less than for religion. Gothic architecture, with kindred pictorial decoration, became from this centre diffused over the hills and the valleys of central Italy.

A further point arises from some peculiar characteristics in construction. The Lower Church is cavernous and crypt-like; the columns in the nave are of single massive shafts, as in the Norman style of England, or the transition from the Romanesque to the Gothic in France. The arches and vaulting between these stunted columns are round, with possibly a slight aspiration here and there, according to the spaces spanned, to a point. These columns, which now stand at the entrances to the side chapels of later date, are continued to the Upper Church, where they serve as external buttresses—anomalous and undecorative. The Upper Church soars into the sky in contrast, and yet not in discord, with the lower. It is as a lantern rising out of a crypt; it is full of light, and speaks, as it were, of the Resurrection after the Sepulture. The semi-detached columns at the transepts divide into clusters; the vaulting, of the elementary form of a rectangular space, with diagonal ribs, is fairly lofty compared with the width of the floor. Here in the Upper Church the forms exchange strength for elegance; the colours, enlivened by a flood of light, are joyous. Judging from internal evidence, there would seem to be a development in style more than correspondent to the difference of twenty years in the date. I do not know of any record of change in the design during the progress of the work, and the two structures are not without unity; the apse especially is in accord in the two churches. Moreover, it would seem in an architectural structure reasonable to take into account what in nature is a principle of vital growth, from root or base to flower or roof; at all events, in the present instance it was a manifest necessity that the under church, which had to bear the weight, should be strong, and equally needful that the upper should be light. Thus it would appear to me probable that any apparent diversity in style is but one of the many proofs of the power of adaptation to circumstances in Gothic architecture. I will just add that the vestibule and most of the side chapels to the Lower Church were appended during the last quarter of the fifteenth century, yet some must be earlier, because they still preserve on their walls pictures of the fourteenth century. The dates of the structures are of all the more consequence, because they thus sometimes serve to indicate the age of the decorations. It is evident that a fresco could not have been painted before the wall was built.

One more matter may be worthy of mention before I pass to the recent restorations. It has already been stated that an Italian architect shared the work with a German—a fact which may the better account for certain accommodations of the Northern Gothic to Southern and Italian treatment. This is seen in the surrender of mouldings, surface panellings, and details, for the sake of large, unbroken spaces, reserved expressly for frescos. Here, in fact, in Assisi, as in the Arena Chapel, Padua, the pictures become principals, and the architectural members and the sculpture subordinates. Mouldings are merged into divisional lines between pictures; indeed, the painter uniformly seizes on the diagonal ribs in the vault, and treats them as picture-frames. It is not here necessary to discuss the advantages and the penalties of divers modes of decoration. All that need be said is that Assisi is rather an ultra example of how light and shade, form and proportion—in other words, how architecture and sculpture—may be made the servants of painting. The principle involved could scarcely be wholly wrong when the results reached were so nearly right.

I now beg to direct your attention to those recent and radical changes which have provoked a storm of criticism. The purpose of the works undertaken may be said in the general to be to reinstate, as far as practicable, the Lower and the Upper Churches to something approaching their original integrity. The narrative which follows is made from notes taken by myself on the spot, and still more from verbal statements, letters, and a manuscript report to the Italian Government by Signor Cavalcaselle, to whom has fortunately been intrusted these perilous operations. Beginning with the exterior, the first object has been to place the building in safety. Thus, the roof was made round, the buttresses were strengthened, crevices in the stonework stopped, so as to prevent the rain from penetrating through the walls to the back of the frescos. Provision also had to be made for the escape of water, and lightning conductors were put up, to the need of which I can testify, from having witnessed from within the building one of the severest of storms which visit the Apennines.

I will now speak of the alterations in the lower church. The clearances have been effected with so strong and swift a hand that priests and people were alike taken by surprise. Thus during a single night a staff of twenty or more men made a clean sweep of wood altars, rococo carpentry, and gimcrack ornaments, much to the consternation of the monks who came in the morning as usual to say mass. By this bold stroke of business light was let in at darkened windows, frescos by the dozen were made to look out once more from walls long masked, and the stone-altars, before which the

immediate followers of St. Francis had worshipped, being disencumbered from impertinent excrescences, again stood out in their original moderation and simplicity of proportion. The following details I take in an abridged form from Signor Cavalcaselle's official report to the Italian Government:—

1. The iron enclosure round the high altar in the Lower Church has been for historic reasons removed to its original position at the high altar of the Upper Church.

2. An iron railing, or low screen, has been placed between the nave and the presbytery of the Lower Church; marks in the structure indicate the prior position of a similar erection.

3. The singing gallery and organ have been taken away from the apse and east end; thereby are revealed frescos before hid, and also the wooden choir of 1471; likewise thereby much required light is admitted to the frescos in the vault, especially to the four famous compositions of Giotto over the high altar at the transept.

4. The huge marble altar on the west wall of the north transept has been cleared away. Thus can now be seen the immense crucifixion by Pietro Lorenzetti, which covers the greater part of the wall.

5. From the opposite transept has been removed the altar of gilded wood, which covered half of Cimabue's noble fresco of the Madonna, Child, and angels.

6. From the chapel of the Orsini has been taken a marble altar; thereby is discovered the sepulchre of Cardinal Gaetano Orsini, together with a fresco. A new altar is now put like to the ancient one. The chapel is better lighted, and the painted windows are no longer shut out from view.

7. Likewise from the opposite chapel, that of Cardinal Napoleon Orsini, was carried away an altar of gilded wood, thus revealing a tomb, also a fresco of the Madonna and Child.

8. In the Chapel of St. Antonio Abate were discovered two sepulchral monuments of Blaise, Duke of Spoleto, and his son. The vast barocco marble altar has been taken down, and a small one of ancient form substituted. When such restorations became imperative, the types adopted were those of the old stone altars—little else than rectangular tables.

9. In like manner all the remaining altars of gilded wood were removed. They disguised and disfigured the original stone altars, mostly still lying hid within.

Lastly. The painted windows now once more serve the purpose of windows. They light up the darkness visible of this grand, though gloomy interior.

I will next tell of the changes in the Upper Church. They have been analogous to those in the lower, though in the absence of side chapels and side altars they could not be identical. The following are the chief points for observation. Again, the notes made on the spot find most important additions from Signor Cavalcaselle.

Careful consideration has been given to the original level of the floor of the nave, and the conclusion came to is that there was a rise of three steps between the nave and the presbytery, that subsequently the nave and the door on the west were placed on a higher level. During my visit last autumn men were employed with pickaxes about the foundations of the entrance, but nothing was discovered. The inference is that the columns and bases of the doorway were raised at the time when the nave was elevated. This elevation of the floor necessarily threw additional weight on the Lower Church, but the massive columns are sufficient to sustain the further burden. Of the strength of the vaulting it is not so easy to speak, as the surface is disguised pictorially. This rise in the nave presented a difficult problem to the restorers, but Signor Cavalcaselle came to the conclusion that, under present conditions, it would not be wise to lower the nave to its original level. Such a change would necessitate the lowering of the base of the western door, and of the grass-grown piazza in its front—processes very difficult, if not impossible. It was deemed that a descent into the Upper Church by steps from the piazza would be a sacrifice of dignity. Thus a wise caution has induced a discreet compromise. The ascending slope from the nave to the transepts, made when the three steps were removed, is now converted into one step. Thus it has not been attempted to take back the church precisely to its state in the thirteenth century, as conceived by Lapo; and we are told that we may reasonably rest content to see the structure placed in the intermediate condition of the fifteenth century. At all events, we can now realise the interior as it was before the changes of the sixteenth century, and the frightful intrusions of later and recent times.

The most important alterations in the Upper Church have been in the transepts, apse, and the high altar. From the west walls of the transepts have been removed two painted wooden altars, of corrupt design. The result is the uncovering of two frescos of the Conception. The early simple stone altars were found set away from the walls, and names scratched; and an inscription behind one of them, bearing the dates 1469, 1559, 1677, and 1680, shows that in these years the walls were free from the huge painted incumbrances now happily removed.

The radical reformation has been the withdrawal from the apse and transepts of the intarsia coro of the sixteenth century, executed by the well-known worker in wood, San Severino, of Florence. This uncompromising measure provoked more opposition than any other of the recent changes. This coro, no doubt, was an intrusion, but yet it formed an imposing piece of church furniture, and its removal, though revealing frescos—not, however, of a high order—leaves the east end of the church bald and desolate. Signor Cavalcaselle defends the proceeding. He says truly that the structure was ill suited to the position; that the style is cinque cento, and that, with the exception of the figures in tarsia, the execution is rude. I may add what I conceive to be a paramount reason for its removal—that the restitutions, either accomplished or contemplated, would not otherwise have been practicable.

The papal throne in the centre of the apse was examined. The original simple structure had evidently been tampered with. The level had been raised from two steps to five above the floor, and a semi-classic canopy, supported by columns on false bases, had been added. This canopy is removed.

the lower part of the wall of the apse, on either side of the papal chair, was found without intonaco—a fact which led to the inference that the space had been occupied, as in many other churches, with a range of seats. Furthermore, in the transepts, below the line of the frescoes, were discovered painted tapestries up to the dado. It is one of the interesting coincidences arising out of the recent investigations, that in the Lower Church are marble and mosaic wall coverings, corresponding in dimensions to the undecorated spaces in the apse. This marble work, of the generic character of Opus Alexandrinum, also fits in with the proportions of a supposed original coro. It is proposed to re-clothe the denuded wall space in the apse according to this conjectured precedent.

One important advantage accruing from the removal of the encroachment of the large wooden stall-work has been the needful space gained for the restoration of the high altar to its original position immediately under the transept. The altar had been thrust down into the nave to make way for the increased dimensions of the choir. In its present position it stands immediately above the high altar in the Lower Church, which, in its turn, is directly over the tomb of St. Francis in the Crypt Church. Before we quit the high altar in the Upper Church, I would again refer to the transfer of the enclosure of ironwork from the high altar of the Lower Church. Signor Cavalcaselle considers that it was made for the upper altar, and had been wrongly removed to the lower in the sixteenth century. This iron enclosure underwent many alterations, and bears the signs of at least two dates—the earlier is of the first half of the fifteenth century; some additions are of the second half of the sixteenth, the period of the stall-work removed from the upper apse. It may seem an anomaly that the woodwork should be removed while the ironwork is restored; but the excuse is, as before said, that circumstances suggest, if, indeed, they do not impose, a compromise.

The evidence of the existence of the marble coro is as follows:—First, foundations found beneath the pavement; second, the existence of sundry marble slabs decorated with mosaics inserted in the pavement, found attached but not belonging to the pulpit in the nave of the Lower Church, and to the wall of the Pontani Chapel. These marbles, as before said, correspond in size with the unclothed wall spaces on either side of the papal throne. Third, the small pulpit of stone now attached to the shafts of the clustered column at the angle between the nave and the north transept. The column has been chiselled away to admit of this addition, and the little staircase leading from the sacristy below is also subsequent to the original structure; apparently the date is of the fifteenth century, the time of the breaking up of the marble coro. This pulpit, then very lovely in its proportions, is supposed to be one of the two ambones of the choir. The conjecture seems ingenious without being quite conclusive. Fourth, the existence in the church of Sta. Chiara, in Assisi, of a similar choir of the date of 1257, the design of Fra Filippo Campello, who also, as we have seen, worked in the church of St. Francis. Fifth, a fresco by Giotto in the nave of the Upper Church, depicting the saint instituting the representation of the Nativity.

The whole of this difficult problem Signor Cavalcaselle sums up as follows:—Such being the results of the observations made, the natural wish would have been to reduce the work to the integrity of its primitive form, and with this end to dispense with the iron enclosure, to make in the altar and papal throne radical restorations, to set up again the marble coro; in short, entirely to re-arrange the transept and apse. But to do this, he says, would be absolutely impossible, and therefore it has been thought better to take the middle course, an accommodation to existing circumstances, which I have attempted to explain, if not to justify.

Having spoken thus far of the structure, Mr. Atkinson said that it was now time to turn to the painted decorations—premising by stating that he used the word fresco merely as a generic term, as, strictly speaking, there were no frescoes, the process being secco.

First came Giunta of Pisa, who was still under Byzantine bondage; next followed his pupil Cimabue, then a clearance was made for a third generation under Giotto; afterwards followed Giotto and other pupils—these painters representing the Florentine school in the two churches. But the desire to secure the best talent of the day naturally led to the employment of the leading masters in the rival school of Siena. Accordingly, we find on the walls frescoes, by Simone Martini, commonly called Simone Memmi, and of Ambrogio, or Pietro Lorenzetti. Many of these compositions have suffered grievously from decay and from restorations, and some having been entirely swept away, are replaced by later works in the worst taste. At a rough estimate the two churches contain from four to five centuries of frescoes, and it will be easily understood how difficult it becomes, after the lapse of time, to distinguish with certainty the authorship of individual works, especially as the greater number are, as I have said, either wrecks or restorations.

The wall pictures in the Lower and the Upper Church, owing in part to persistent destruction of old work, and the interpolation of new, admit of no consecutive arrangement. Where internal evidence can scarcely decide between the taste of Byzantine painters on the one hand, and Giunta and Cimabue on the other, the fact in my opinion being that Byzantine art has been unfairly derived, and the reformation wrought by Cimabue too greatly magnified. Signor Cavalcaselle argues against the probability of Greek artists having been employed. This may, perhaps, be strictly true; but Italian artists, working in the manner of Byzantines, would produce almost identical results. In fact, in the face of these designs, it once more becomes evident that the generic manner goes for more than the individual master. A comparison may be made between these frescoes and the mural paintings in the mother church of Pisa. In the presence of these compositions in Assisi I cannot but feel how much has been lost in the total overthrow of the Byzantine manner. The figures stood firmly as columns, and the draperies are cast into broad symmetric folds, not very remote from Classic originals. In colour and in decorative service the school is acknowledged to be supreme. Such is the pictorial point of departure at Assisi.

Cimabue follows; nowhere can this grand and creative master be so well studied as within these two churches. It seems certain that Cimabue

painted in the transepts of the Lower Church, also in the transepts of the vault and side walls of the Upper Church. Of great nobility and beauty is the Madonna, with Child and angels, still preserved amid general clearances in the south transept of the Lower Church. From extant remains I am inclined to think that about two-thirds of the Lower and the Upper Church were covered with frescoes by Cimabue, and his immediate forerunners and followers. Possibly, indeed, the whole was thus decorated, for it is hard to believe that in those days of religious enthusiasm the great sanctuary should have remained unfinished for even half a century.

And yet the next epoch, that of Giotto, is probably separated from the former by more than half a century. In England such has been the speedy decay of frescoes that the periods at Assisi in comparison are not short, but long. Possibly it was found that the style, and especially the scale of Cimabue, did not accord with the treatment of his pupil Giotto; and if we may judge from the allotment of walls made for the new decorations, the desire for unity was a controlling consideration. Thus in the Lower Church, to Giotto and his pupils were assigned the vault over the high altar, the greater part of the south transept and two adjacent chapels, and in the Upper, the best parts of the nave. These pictorial creations are almost too well known to need description, even did space permit. Among all the works of Giotto none show more creative genius or technical power than the three vows of St. Francis on the vault of the lower church.

The subjects chosen for illustration are like the architecture and the pictorial styles, a conglomeration; they do not fall into consecutive thought; but, speaking generally, they divide themselves between Biblical history and the life of the titular saint.

In the restorations, Mr. Atkinson said that the greatest difficulty had been to know how to deal with the amazing mass of frescoes, and after describing the plan and process adopted, concluded thus:—All that I have attempted is to give a slight sketch of a monument in which is inscribed a history. Much has been lost, and now all that remains possible is to spell out past times line by line. To complete the picture, details must be filled in, and even then all is not finished, for each year brings new materials, fresh clearances make additions to the revelations, further restorations provoke continuous criticism. In process of time it is proposed to restore the whole Convent, including the Hall of the Musicians, and it has been suggested that then the vast structure might, as a Lyceum, be devoted by the Government to educational uses. Perhaps it is not too much to say that the works undertaken can have no end; structures of this magnitude, especially when old, must ever be under process of restoration as a means to preservation. At Assisi, an architect and a caretaker of the pictures should always be on the spot. Aptly have the churches and monastery of St. Francis in their present dilapidated state been compared to a chronic invalid who needs to be constantly in the hands of a medical man.

Mr. HOLLIDAY (who rose at the invitation of the Chairman), said that Mr. Atkinson, from his exhaustive treatment of the subject, had anticipated almost all that he had to say. He had formerly the pleasure of spending a few weeks in Assisi, when he made a copy of one of the Giottoes—the subject being St. Francis healing a soldier; the story was admirably told, and the colour was charming. The work was admirable throughout, but from its extent it was scarcely possible for the whole of it to have been executed by Giotto. The work in the Upper Church was charming, but that in the Lower Church was so beautiful as to produce the impression that the work was the result of inspiration.

Dr. BARLOW said it was thirty years since he visited Assisi, and took great interest in the work, regarding it as a wonderful temple of Christian Art. The Upper Church and also the Lower furnished a complete history of Art, and anyone who desired to study the history of Art, could not do so with greater advantage than at Assisi. The paintings in the Lower Church were no doubt finer than those in the higher. The restorations had, he believed, received the approval of the Florentine Academy. He desired to thank Mr. Atkinson for having brought the subject so graphically before them.

Mr. EASTLAKE said that they were indebted to Mr. Lonsdale for some very interesting life-sized studies, and the Paper had been further illustrated by contributions from Mr. Aston Webb, Mr. Aitchison, Mr. Holliday, and others.

Mr. CRACE, in moving a vote of thanks to Mr. Atkinson, said that the interior of Assisi appeared to have undergone such a tremendous amount of restoration as almost to suggest the idea of destruction, had not the honoured name of Signor Cavalcaselle been associated with the work. Several points of detail arose, and he questioned whether what were called frescoes were really such, but were not rather paintings in secco, as he did not believe that fresco was largely produced in Giotto's time. One point appeared to be clearly brought out, namely, that the Classic influence was never dead, even at the height of Gothic architecture in Italy, Gothic Art in Italy being rather an exotic, so to speak, having never obtained any real existence there; and these buildings were rather Byzantine in their character. The way in which masses of colour were handled was remarkable—affording a valuable lesson with regard to the broad treatment of colour, and of especial use at the present time. The work was of an order calculated to afford the most valuable assistance to the student of coloured decoration.

Mr. ASTON WEBB (Pugin Student) said he was very glad to hear that the excavations going on were likely to improve and not to damage the paintings. Mr. Atkinson did not say whether any frescoes had been discovered. He (Mr. Webb) had heard that some new frescoes had been discovered, and he would be glad to hear if any painting of importance had been found during the alterations.

The CHAIRMAN said that Mr. Beresford Hope, who felt great interest in the subject, had hoped to be present, but was prevented by his Parliamentary duties.

Sir GILBERT SCOTT desired to add his testimony to the historical value of the architecture of the church, and observed that Mr. Atkinson had

pointed out (what they knew from other sources) that a German and an Italian architect had worked together. There was a marked distinction at that time between French and German architects, for the latter appeared to have forsaken their own style—and fallen into the French style—but their work, like that of most imitators, conveyed the impression of its being second-hand French work. There seemed to be a mixture of German and Italian details, as if both architects had been working independently, and yet there was evidence of consistent working and wonderful harmony between the Italian and his German colleague. The decorative work was especially deserving of study, and the three vaults of the nave of the Upper Church said to have been decorated by Cimabue might be noticed; two of them were decorated by paintings of a richer class than the other, and the architecture was superb, but being founded on Classic reminiscences was not of a style we should reproduce in England. The colours were toned and blended in the most charming way imaginable, and the carrying of the foliage was of exquisite beauty, but the young architect, if he were working in Gothic, must divest himself of the Classic details and study rather the principle and feeling of the work. The church also contained diapers and ornaments of wonderful beauty, and although the imitative mosaic might be questionable it had an appearance of stability.

The vote having been formally put from the chair and carried,

Mr. ATKINSON replied and said that the authorities were so very doubtful as to which of the pictures were the work of Cimabue, that it was impossible to speak with any certainty upon the subject. In the Upper Church the various compartments belonged to the Cimabue period, and if any of the vaulting was by Cimabue it would probably be the vaulting referred to by the President; but Cimabue was always one of the most difficult men to understand. With regard to the decorations, he wished his knowledge had been sufficiently extensive to have enabled him to speak of those wonderful works, but illustrations were hung round the room. A gentleman had spoken of restoration and destruction, and Mr. Atkinson said he wished distinctly to state that, historically speaking, there had not been destruction. A quantity of things put up in a corrupt period had been done away with, but he could not call that destruction, as they were merely excrescences. It was true, however, that some good sixteenth-century work had been destroyed. The frescos discovered had occasioned considerable disappointment, there being none of high character, and they were mostly dilapidated and invisible. In the transepts of the Upper Church there was fine arcading, containing figures of very great dignity; and there were also figures of great beauty in the lower part. When works of such magnitude were taken in hand it came to this—that it was difficult to know where to stop; but, on the whole, he believed that the works had been conducted on a sound principle, and that the results were satisfactory, although there were some matters to call for regret. Mr. Crace's remarks on decoration were very valuable, and he was disposed to agree with them. No doubt the blue was used as a sort of keynote, and, together with gold stars, brought the illustrations together, producing a unity which, with the decorative mouldings, produced one of the finest examples of decorative art that had been preserved.

The President announced that the next meeting, on May 3, would be the annual general meeting.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.

A LECTURE was delivered before this Society on Thursday, the 15th inst., by Mr. William Simpson, F.R.G.S., on "Temples I have visited"—Mr. Walter Morrison in the chair. The lecturer showed how intimately temples were connected with grave-mounds and caves. Commencing with Stonehenge and the Carnac in Brittany, he went thence to Pekin, giving a detailed account of the Temple of Heaven; he showed also how the temples of Jerusalem, Bethlehem, and Macpelah were all founded on caves, and demonstrated the universality of temples in all ages and countries, tracing their origin from Egypt to Assyria, and thence to Greece and Rome. At the conclusion of the lecture a discussion ensued in which Dr. Leitner, Mr. Augustus Babington, Major Britten, and the Chairman took part—Major Britten calling especial attention to the passing of the second reading of Sir John Lubbock's Ancient Monuments Bill, and to the benefits likely to be derived therefrom.

On Thursday next Mr. Henry Blackburn will read a Paper on "Art in America," and on May 13 Mr. W. Cave Thomas will lecture on "The employment of the Artist in the Decoration of Public Edifices—the true way of developing National Art."

THE WORCESTER GUILDHALL.

THE Town Clerk of Worcester, in a letter to the local papers, says:—

"The question of the rebuilding or restoration of the Guildhall is at present in abeyance, and I have no desire to precipitate its consideration; but a letter I have this week received from Sir G. Gilbert Scott, R.A., on some business of my own, contains an allusion to the subject, which I deem it a duty to my fellow-citizens to ask you to publish. It is as follows:—

"I do trust that the report is untrue that your Corporation are about to destroy the best and most valuable building in your city next to the cathedral. I refer to the Town Hall. It is a national example of architecture, and that of a very characteristic and favourite style and period. Its destruction would be a repetition of the disgrace Worcester underwent from the demolition of the Guesten Hall, and would give you in all future time a most unenviable notoriety!"

"I am pleased," continues the Town Clerk, "to have it in my power to inform the writer of the above that the destruction of the Guesten Hall was not the act of the Corporation of Worcester."

ILLUSTRATIONS.

ST. SAVIOUR'S CHURCH, LAMBERT ROAD, Brixton Hill.

WE give a north-west view of this church, now in course of completion by Mr. TAYLOR, of Brixton Road. Mr. E. C. ROBINSON, of Southampton Street, being the architect, and Mr. WOODLEY, the clerk of works.

The new ecclesiastical district of St. Saviour's is taken out of St. Matthew's parish, as was also St. Jude's, Brockwell Park, both of which churches were designed by the same architect.

Nearly 900 persons are provided for at a cost of 7,000*l.*, exclusive of the upper part of the tower and spire, the erection of which is deferred for the present.

The style of architecture adopted is Thirteenth Century French Gothic, and the building is faced with Kentish rag with Bath stone dressings. The rag work is laid in irregular courses with horizontal and vertical joints. The mortar joints are struck as the work proceeds, there being no subsequent black pointing. The roofs are covered with green slates, and tile ridges with serrated edges.

The church is of large proportions and comprises a nave and chancel 130 feet long, north and south aisles 100 feet long, north and south porches, in addition to the tower entrance at the north-western angle. The organ chamber is on the north side of the chancel and the vestry on the south. The nave arcade is in six bays, with shafts of Douling stone, carved caps and bases and arches of Bath stone. Two-light plate tracered windows fill the clerestory, and four-light geometrical tracered windows fill the eastern and western walls. The total width of the body of the church is about 65 feet including walls.

The conventional carving is being executed by Mr. WHITTINGHAM from sketches of the Architect.

The tile paving and reredos by Messrs. SIMPSON. The gas-fittings by Messrs. RICHARDSON & Co. from special sketches.

Messrs. HEATON & BUTLER are executing a very beautiful painted and stained-glass widow for the chancel, in which are eight subject pictures, illustrating scripture types and antitypes, which is to cost 300*l.* This window is the gift of Mr. HEYLING, put up by him in memory of his mother, and will be a great ornament to the church. The rest of the windows are glazed in varying shades of cathedral glass.

The roofs are open timbered, with moulded and chamfered tie-beams and king-post to every alternate nave truss. The curved braces of all the principal rafters rest on carved stone corbels. The chancel roof is a pointed wagon vault lined with V-jointed boarding, panelled with moulded ribs.

There are no galleries. The church will be heated with warm water on the high-pressure principle by Messrs. BACON & Co.

The church will be ready for consecration by July next.

DESIGN FOR IMPROVED INDUSTRIAL DWELLINGS, GOSWELL ROAD.

THE design shown in the accompanying illustration was submitted in the late competition by Messrs. POPE & SON, of Bristol.

The site was proposed to be divided by a new road (40 feet wide), connecting King Street and Compton Street, thus affording five direct frontages for the new buildings.

The elevations were to be similar in character to Compton Buildings, with brick and freestone dressings, and in accordance with the "Metropolitan Building Act." The roofs to be flat and formed with concrete and iron girders, with a space between roof and ceilings, so as to afford an even temperature. The ceilings over shops to be constructed in a similar manner.

The floors of living rooms would be of red deal with cement skirtings, the floors of sculleries of cement, the external landings of iron and slate, the front stairs of Yorkshire stone, the back stairs of iron, the walls and ceilings to have two coat plastering, and the walls papered. The joiners' work would be of pine, plain to the interior work, and the sashes to windows double hung.

The dwellings are shown to be self-contained, with entrance door opening to the external air.

Each room was provided with sash windows, and the passages were so arranged that by opening the doors and windows a current of external air can pass through the dwellings.

At the back of each block is shown an iron staircase, giving access from each dwelling to the yard and to the roof. Upon the landings of this staircase were spaces for coal-boxes and dust-shoots.

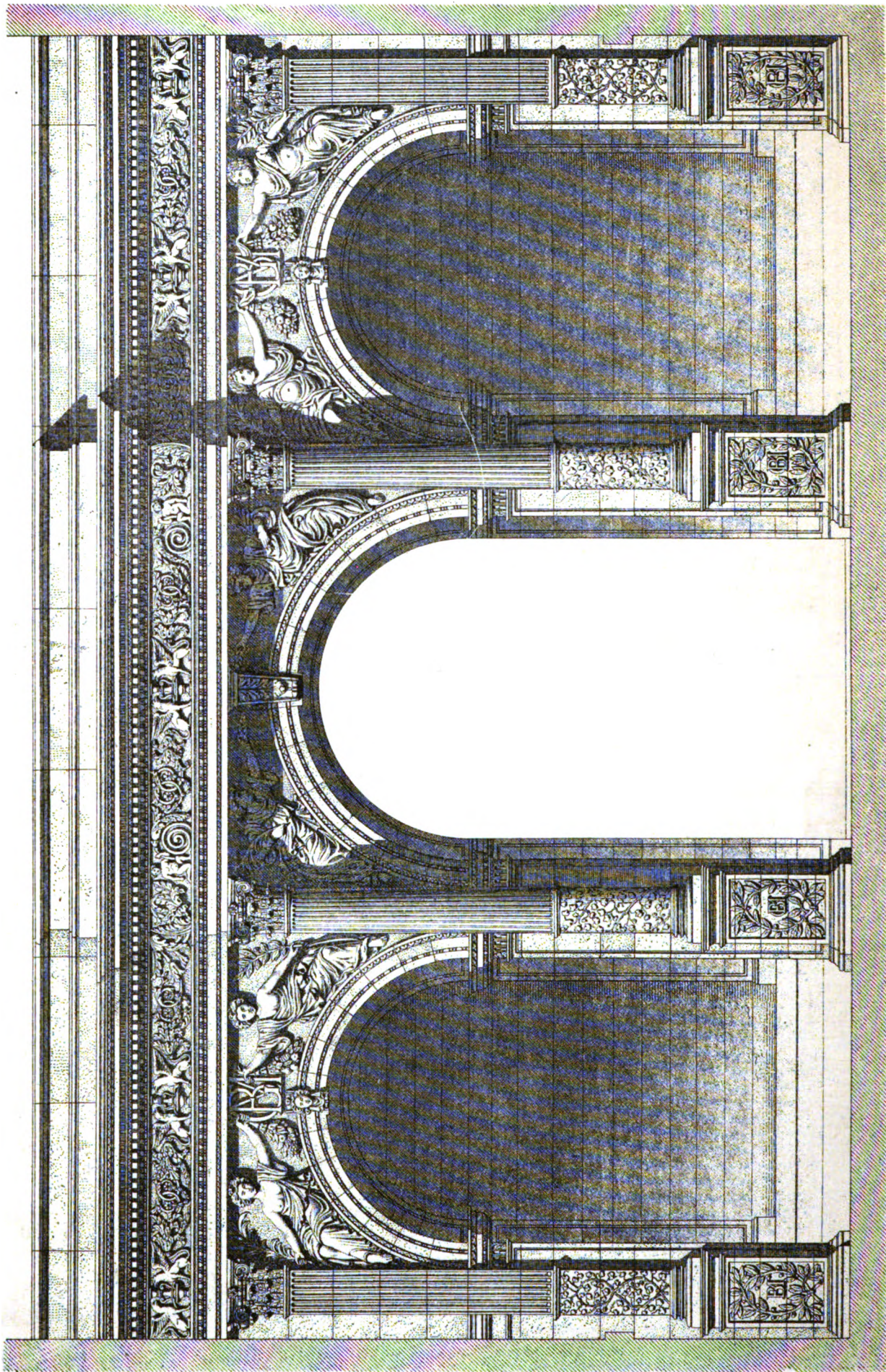
Each dwelling was provided with separate domestic conveniences, placed as far as possible exterior to the building.

In the back yards was space for the erection of wash-houses and workshops, &c. The estimated cost was 42,000*l.*

ENTRANCE PORTICO, HOTEL DE VOGUE, DIJON.

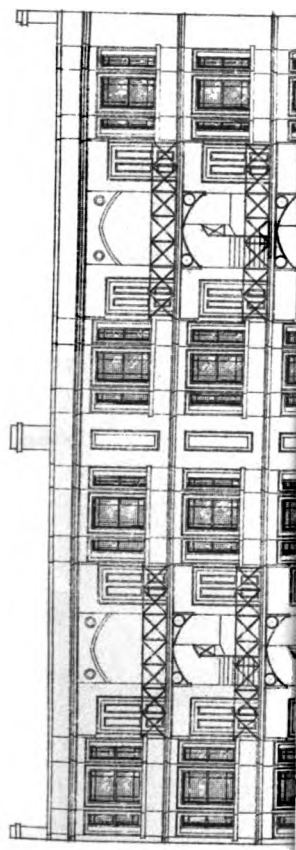
WITH our first illustration of the Hotel de Vogue we gave a description and a plan, showing the general arrangement of the building, and by reference to them the relation of this porch to the structure will become plain. We may add that the illustration has been reproduced from M. SAUVAGEOT's fine monograph, which was published by MM. MOREL & CIE, of Paris.





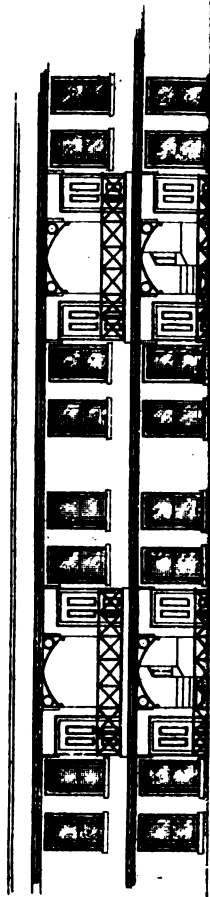
Designed by M. W. G. & Co. London 1875.

HOTEL DE VOGUE DIJON; ENTRANCE PORTICO.

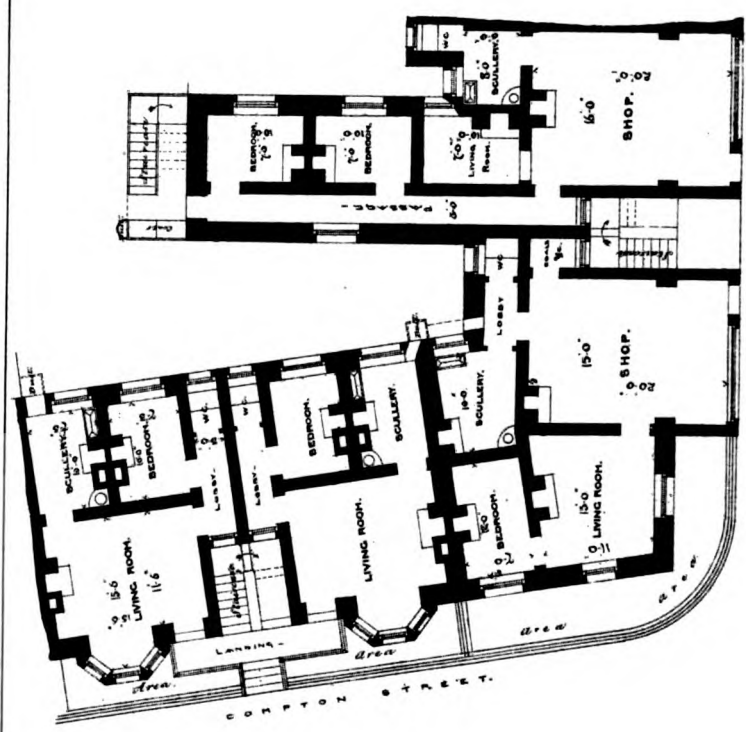


PLAN OF GROUND FLOOR & BASEMENT.

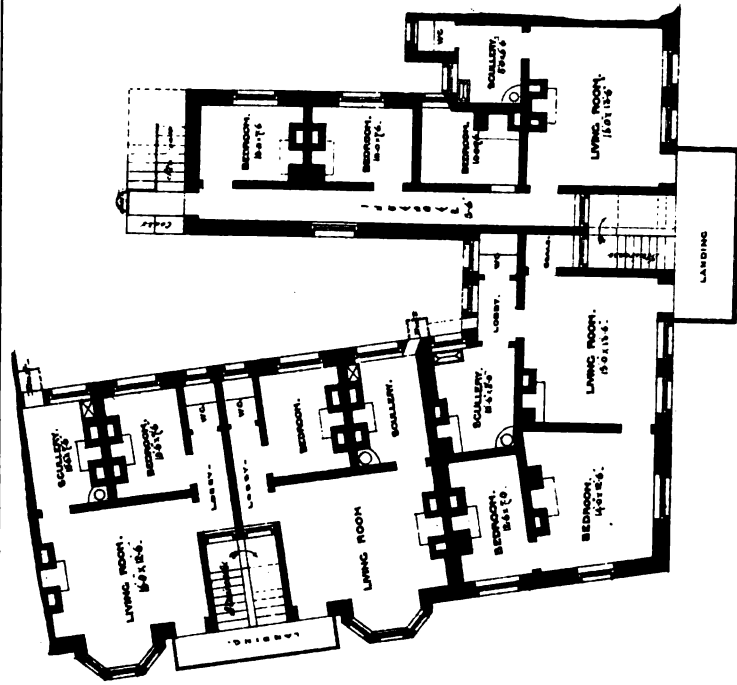
ELEVATION OF HOUSE
New Road.



PLAN OF 1ST 2ND & 3RD FLOORS.



PLAN FOR GROUND (& BASEMENT) FLOORS.

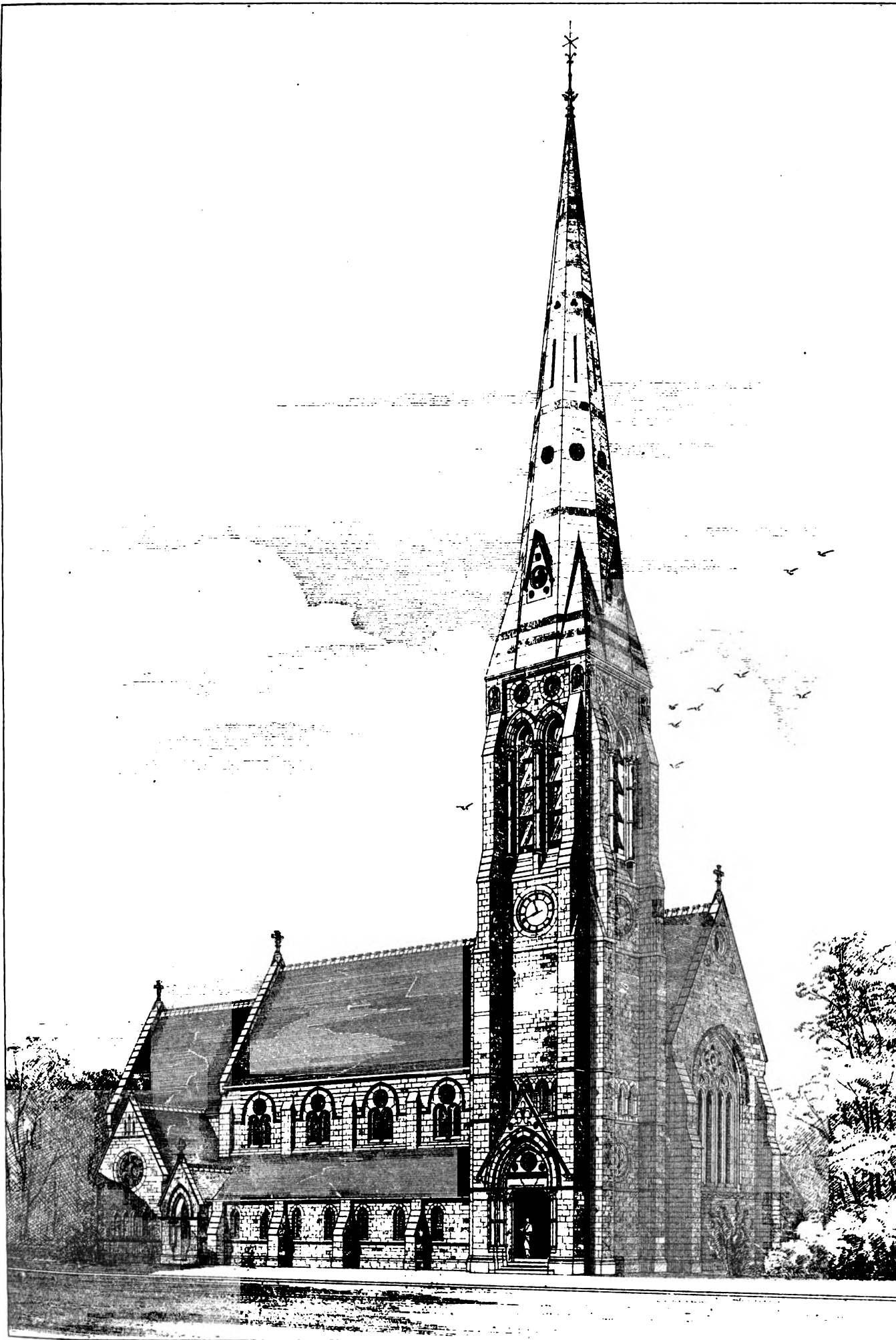


PLAN OF 1ST 2ND & 3RD FLOORS.

DESIGN FOR IMPROVED INDUSTRIAL DWELLINGS, GOSWELL ROAD.
MESSRS R J POPE & SON ARCHITECTS.

Drawn by W. J. Pope & C. J. Pope.





ST SAVIOURS CHURCH, BRIXTON, N.W. VIEW.
E. C. ROBINS, F.R.I.B.A. ARCHITECT.

Painted by W. W. Symonds & Co. London, E.C.



THE ARCHITECTURAL ASSOCIATION.

At the ordinary meeting held on April 16, Mr. G. H. Birch, president, in the chair, Mr. Frederick Davis was elected a member. Alluding to a visit recently paid by members to the buildings that are being pulled down in Lime Street, Mr. S. Flint Clarkson (hon. sec.) acknowledged the kind assistance rendered on the occasion by Mr. T. Chatfield Clarke. A special vote of thanks was accorded to Mr. Clarke, Mr. Marnock observing that the visit in question was, he believed, the first of a series of similar visits, which promised to be of more than ordinary interest.

It was announced that Mr. J. S. Quilter, who for many years had filled the office of hon. registrar, had tendered his resignation, and Mr. T. H. Watson (past president) had taken the rooms vacated by Mr. Quilter and consented to take his place as hon. registrar. A vote of thanks was awarded to Mr. Quilter on his retirement, and the President congratulated the meeting on the acceptance of the office by Mr. Watson.

The discussion (adjourned from a previous meeting) on

"Queen Anne," and its Relation to the Gothic Revival,

was then resumed by Mr. Hugh Stannus.

In the course of a brief introduction, Mr. STANNUS explained that when he moved the adjournment of the discussion on this very interesting subject he imagined that he would have had the interval up to the last meeting of the session in which to prepare a Paper in modification of some of the views expressed by Mr. L. W. Ridge, but in consequence of an alteration in the programme the present evening had been devoted to the continuance of the discussion. He therefore felt somewhat unprepared to take up the subject, particularly as he had suffered very recently from a severe attack of illness. However, he felt that he ought to accede to the request of the secretary, and hoped that any deficiency on his part might, under the circumstances, be excused. The clever lecture delivered by Mr. Ridge was wound up with the somewhat histrionic and epigrammatic sentence that architecturally "Queen Anne was dead." Such a statement was, however, not in consonance with the facts. But passing that by for the present he would allude to Mr. Ridge's attack on Classic Architecture. The following might, in brief, be taken as Mr. Ridge's recipe for a Classic building: "Take a colonnade invented by heathens, apply it dishonestly to a wall, cut holes in walls at symmetrical but inconvenient places, and pounce with cement or stucco." According to the same authority, the recipe for a Gothic building would read something like this: "Take details invented by Christian and emancipated workmen, mix well with 'True Principles,' and apply in Truth, Piety, Love, Reverence, &c." Now Mr. Ridge had very summarily disposed of Roman architecture by classifying it with the Temple and the Bath styles, and he had spoken about a column being put in front of a pier, not for the purpose of supporting anything, but as a sort of decoration. Probably he alluded to the basilica of Maxentius among others, but it must be remembered that in that work the eight large columns in front of piers were employed, as vaulting shafts were in Gothic cathedrals, to support in appearance, though not in reality, the springing of the vault. It was true that the Roman temples were columnar because they were derived from the Greek, for the Romans, not being a religious people, took their religious buildings as well as their religion second-hand from the Greeks. Their arches were also semi-religious; but when the Romans were not hampered by foreign influence, they built in a very sensible, straightforward way. When any one asked, what works were the Romans chiefly celebrated for? he supposed the answer would be, that they were celebrated chiefly for their aqueducts and roads; they were in fact great engineers. Their aqueducts were arched, but there was nothing columnar about them; and they were genuine common-sense architecture. Passing on to the Italian period, there are remains of old palaces at Rome and Florence possessing no traces of columns except in cortile. Mr. Stannus mentioned several instances of these, the whole building being properly and fairly constructed. In modern times also there were many club houses devoid of that abomination called the order. There were club houses and mansions by Sir C. Barry and others, among which Bridgewater House might be mentioned. Mr. Ridge's recipe was, therefore, not infallible, for we might fairly conclude that although columns had been used and very much abused in Classic façades they were not an integral part of Classic design, and they had been moreover condemned by Mr. Fergusson and other writers on Classic Architecture.

Proceeding to discuss another topic, Mr. Stannus commented on the proneness of the Goths to brag of their "true principles." He believed that this practice originated with the elder Pugin, who wrote a book on "True Principles." How tiresome it was to hear a man always saying, "You know I am a straightforward man." Such people were always pulling out their honesty to give it an airing as Captain Costigan pulled out his courage lest it should grow mouldy. Goths were rather bigoted in this—like teetotalers—men with only a one-sided truth. Teetotalism did good in drawing attention to the crying evil of drunkenness, and if people would accept one-half of the teetotal theory, and be temperate, it would be a very good thing; so the preaching of Gothic principles did good in drawing attention to bad construction and dishonesty in the use of materials, and if architects followed half their advice, it would be well. Gothic architecture had done its share of good in the world, just as the men who made it had contributed each some sterling gift of character to keep the lamp of civilisation alive in rude and barbarous times, and who had each given of the best he knew to the service of the Creator, who inspires the love of beauty, and graciously gives the power to realise it, however imperfectly. The man who conceived that grand poem, Salisbury Cathedral, and the man who poured out his soul in stone in what is called the tomb of Archbishop Grey, in York Minster, and countless others, many of them nameless, and content to be so, so long as allowed to help in what they thought to be the service of God, had each helped to make the world richer and better than they found it. They lived in rugged times, their

struggle against the forces of Nature was far harder than now, and we can make allowance for this roughness in admiring and loving the spirit with which they gave of their best; but it was rugged and unrefined along with its honesty, and if we can have the latter without the former so much the better. Now teetotalers were very good meaning people, but they were disposed to carry their principles too far, and the partisans of the Gothic style, from being "young and earnest, etc.," claimed now to silence everybody who did not hold the same views as themselves; therefore, it was time to enter a protest against such sweeping condemnation. One could not help saying to them, as Job was made to say to his friends, "No doubt but ye are the people, and wisdom shall die with you."

Before indicating what he believed to be the broad view of this question of style, Mr. Stannus desired to draw attention to a parallelism which appeared to exist between various decorative treatments of features in the two styles. Classic had been found fault with because of the unnecessary use of balustrades, but he had seen battlements at the top of Gothic buildings when defence was not contemplated. In Classic, clustered piers were complained of, but there were clustered columns in Gothic that carried the eye down by the vaulting shaft; in Classic, pediments over doors, etc., were objected to; but, on the other hand, gables over windows and gables in wood in imitation of stone were common in Gothic; the pilaster to thicken the wall had its Gothic counterpart in the buttress; and the vice of putting an order round a building was not peculiar to Classic only. It would, therefore, be seen that there were inconsistencies of construction in Gothic as well as in Classic, and instances occurred of lintel construction being carried out in windows, although arched construction was suggested. He would also ask, what was the use of crockets? They only wasted the stone, and formed receptacles for the dirt and rain; they did not grow out of the construction, but were merely ornaments. He would suggest, therefore, that those Gothic gentlemen who were anxious to pluck out the Classic mote might firstly extract the Gothic beam. It was painful to make these criticisms, but as Mr. Ridge had made a raid in Classic domain, he was only imitating the example by carrying the war into the enemy's country.

But (Mr. Stannus asked) what was it that modified a building, or rather, why was a building intended for the same purpose so differently built in different countries? Various considerations conduced to this state of things. The peculiarities of climate and materials had to be provided for; thus in Italy there were small windows and low roofs, and in Germany, large windows and high roofs. The power of the sun in giving relief to the details, had also to be taken into consideration according to the particular climate; and the mode of construction was necessarily influenced by the materials at hand. In a clay country there would naturally be a brick and terra-cotta construction, in a small-stone country, the arched construction would be more applicable, and in a large-stone country, the lintel construction. Under these limitations, so long as a man built merely for himself he would build in a common-sense manner. It might not be architecture, so to speak, but would at least be good building. He was in a state of happy unconsciousness of what other people might think. He was out of the reach of the fashion of building, just as a building erected out of the influence of architecture could not be claimed by the partisans of any particular style. Country people were unaffected by fashions in dress, and the same might be said with regard to their building. The cottages built by village carpenters were just a case in point. The sight of them was as refreshing as a draught of country air, because they exhibited the simple thorough straightforwardness of common sense. But when a man began to think that other people were looking at him and criticising his outside, then he would consider his façade. Such was also the case with dress. So long as a man was unconscious of critics he would wear what was comfortable and appropriate, but in London he had to follow the fashion. The simple unconscious buildings exhibit those immutable principles of plan, construction, and use of materials which are common to all architecture, and upon which probably all would agree. These are the nucleus of common sense, which is the common ground of all architecture, and does not belong exclusively to any particular style; in the same manner as there is a nucleus in religion, i.e., a group of grand central truths common to all churches, and peculiar to none. Each church adds its own theology to this. As an illustration of this idea, Mr. Stannus referred to the Church of Holy Sepulchre, at Jerusalem, in which there is a central space common to all Christian sects, and the little chapels aggregated round it for the various sects; so in architecture the central space is the common sense principles, and the separate chapels are the various styles or fashions in architecture. Like as the religion had been brought into discredit by the differences among its votaries, so had architects by their squabbles about outer fashions in architecture covered themselves and their art with contempt. The great aim of architecture had been lost sight of, and the consequence was that architects were being improved off the face of the earth.

Mr. Stannus (in continuing) said he desired particularly to impress the point that the principles of common sense and the fair use of everything were the centre ground common to all good styles, and that the details and other husks of fashion were merely like the little chapels congregated round the central area. Each style added its own outer fashion to the common nucleus; but in architecture no more than in theology had one man a right to say to another that he alone had the whole truth, whilst others were drawing from broken cisterns. That particular theology was true to a man which helped him to rise higher; and that style in architecture was right for a man in which he could honestly and simply express his ideas. It was true that he might sometimes draw from a muddy fountain; and the moral he desired to draw was this—that whatever fashion a man added to the simple nucleus of common sense—in architecture—should be the best of its kind, good, appropriate, and pure, developing in that fashion the spirit of the old work.

Mr. Stannus then drew attention to a letter recently written to a professional journal. He explained that he had written to Mr. Seddon requesting him to be present, and Mr. Seddon had kindly come amongst them to give them the benefit of his wide experience. In Mr. Seddon's letter

as they appear as if common sense and Gothic were identical; but Mr. Stannus ventured to lay down that Gothic was something added to the common sense. Mr. Seddon had further said that Gothic ornament grew out of the construction, and he begged he would kindly explain the *raison d'être* of some of the Gothic ornaments in his work at Great Yarmouth. The stail work, beautiful though it was, could scarcely be considered a proper treatment of material, nor could the ornaments upon it be said to grow out of common sense. To say that Gothic was common sense was begging the question, for it was something added to it, as common sense belonged to other fashions as well as to Gothic.

People were apt to mourn that architecture had degenerated into a fashion, and (speaking as if style in architecture and fashion in dress were identical) Mr. Stannus thought it was useless to struggle against the inevitable. There never would again be a time when all the buildings of a civilised country would continue to be built in the same style, as the law of progress had altered all that. Nor would there ever again be a period when all the buildings of a country were in the same style at the same time, except in those countries uncursed by intercourse with other nations and untainted by civilisation. Let them then accept the inevitable, and be makers of fashions. He did not mean that each architect should change with the fashion, and after having built, say a Gothic church and an Italian villa, should afterwards execute an order for an office in the Queen Anne; but he thought that a man ought to choose his style and stick to it, like a barrister to his circuit, and in that style aim ever to keep it good and pure. Then certain men would become known in their particular styles, and be consulted accordingly. Whatever their theology they should act up to it, and whatever their style they should keep it pure.

In dealing next with the particular subject of the Paper, the buildings commonly called "Queen Anne," Mr. Stannus said that there were three distinct styles apparent. (1) The cottage or old English style, which was good, honest, picturesque, and appropriate to the country; (2) Queen Anne "proper" (or rather "Dutch William," for he believed that some of its features came over with William of Orange, and were prior to Queen Anne), the style being a sensible and convenient one for streets, like the houses of Amsterdam, and offering a good example in the Leicester Town Hall of Mr. Haines', which was perfectly plain, sensible, and simple; and, thirdly, there was the style without a name, which, from its heterogeneous elements, might be called the "hodge-podge" style, but for which a better term would be the "Mystic" style. It was interesting to note that the outcry against "Queen Anne" had been raised almost exclusively by Gothic men, the Queen Anneites being deserters from the Gothic Camp. No one took to "Queen Anne" after being a Classic man, but rather being Gothic; and the bitterness shown against the movement by Gothic men was thus easily accounted for. Classic men did not find fault with the disciples of Queen Anne, but welcomed them as converts, although they took exception to their work as not being so simple and pure in detail as it might be.

Referring to the old English type of Queen Anne, Mr. Stannus said he did not propose to offer any criticism upon it. His only feeling regarding it was that of admiration and affection. Those charming remains seemed so racy of the soil, and so to fit their place, that it would be impossible to make any substitute for them in the country.

With regard to the proper Queen Anne style, Mr. Stevenson had explained it, and Mr. Stannus said he was not inclined to go over the same ground, but would only remark that the style appeared to be very suitable for towns.

The style that he most strongly objected to was the "Mystic" type. In this style a good deal of imperfectly-understood Classic detail had been used; and it was drawn from such impure sources as houses at Dantzic, books by Ditterling and Vredman de Vries, and the chased work of the "Petit Maitre" school. Mr. Stannus went through some details of recent buildings in this style (Mystic), criticising them severely. He alluded to the difficulty of adding to existing buildings, so that the new part should not look an after thought or botch; and showed how in one recently erected the effect produced was as if it had been built at different times and a muddle made in consequence. As a student of Classic for something like twenty years, he might be allowed to say that although the votaries of Queen Anne tried in their ornament to speak his language, the grammar was not good. He ventured to think that the Queen Anne woodwork was very good indeed, and the faults of the style were mostly external, the internal details being good and suitable to modern requirements. Old joinery was less deceptively accurate than the modern, but it occasionally let in draughts, and while on the subject of joinery he would say he had never seen provision made in ancient joinery for replacing a panel except by knocking the panelling to pieces, but modern joinery provided beading-in. He believed that builders were in favour of Queen Anne joinery.

Something had been said about Queen Anne mouldings, and Mr. Stannus in speaking of the plaster work, drew attention to some specimens of room cornices designed for and exhibited by Messrs. Jackson & Sons, of Rathbone Place, in this style, which appeared very characteristic and suitable.

In conclusion, Mr. Stannus said he presumed that the aim of those taking part in the discussion was not merely to silence their opponents—what they wanted was not victory but truth. He had endeavoured to point out what appeared to be the faults of the "Mystic" Queen Anne the principal one being its want of "keeping" and irregularity of detail. This was easily accounted for in the Renaissance period, as Gothic men had not then got the Classic feeling (in France at least), but now that it was to be reproduced it should be made purer, so that if history did repeat itself, it might be as Machiavelli said, "in an ascending spiral." Although some who had been brought up in Gothic had in course of development come round to Classic, it was to be hoped they would cultivate a pure style. The great charm of Classic was its purity, and the impurity and irregularity was the great objection to the "Mystic" style. Whatever was good in Queen Anne was its refinement, and what was bad was its irregularity and impurity, so that it might be said that Queen Anne was good in so far as it was Classic and bad in so far as it was free.

Mr. SEDDON said that Mr. Stannus had been good enough to invite him to attend the meeting, and he appreciated the ability of his *tu quoque* argument, for in the warfare between Classic and Gothic there was a great deal to be said on both sides. The first conclusion to which Mr. Stannus had arrived was that a man should be at liberty to choose what style he preferred, and should strive to keep it pure, but he took exception to that statement—not, however, as a bigot, but because he did not admit that there were two styles at all. He did not admit that Gothic and Classic were in opposition. The Greeks evolved their splendid style from heterogeneous elements existing in the Eastern world, and the development into the Doric was a style they might almost worship, but to him it was now as a dead language. We did not now want the order at all; it was useless in modern times, although it was very well for Greece. What was called a cella was in truth a cellar, the main object being to beautify the exterior, and the Romans afterwards took the order of the Greeks, and plastered it on the front of their buildings; but such a device as that could not be called architecture. We afterwards reverted to the Roman method of plastering buildings with the semblance of an order, and perhaps the weakest point in Gothic was its woodwork, but in this the Classic style was only being followed, as it was the method of imitating the pediment which had been taught by the Romans. He would submit this test:—Let them strip any building in the city after the Renaissance style of external ornament, and what would be the result? But they might strip Gothic work to their heart's content without impairing it in any way; and, referring to his own church at Yarmouth, he might say that the columns were not put up for ornament. The whole claim set up by the advocates of Queen Anne was so frivolous—such child's play—that he could not but speak in strong terms of deprecation when he saw clever men pander to the ignorance and craving for novelty on the part of the public. There was no point of interest in the work of Queen Anne's time that was original, inherent, or due to style; in fact there was no style whatever about it. The few things desirable were the mere practical fulfilment of domestic wants, the absence of the architecturalesque in a fulsome manner, and refined delicacy of ornamentation—none of which, however, were patents of the Queen Anne period, and were wholly independent of the senseless, trashy nature of the details used. With regard to his own works, he should only be too glad to have a commission not to put ornament on a building, and if ornament had to be applied in spite of his own judgment, he could not help it. The Queen Anne revival he held to be due to a vain desire to attain notoriety by any means—honest, if practicable, but certainly by some means. If as food such a style was allowed to be not fit for architectural babes to cut their teeth upon, he would ask if architectural adults were likely to be properly nourished by garbage—for garbage and nothing else were the features which alone distinguished it from the commonplace. "Free Classic" was a fine name chosen for it, but the term had no meaning. True Classic was already as free as air, and so the only special freedom that could be claimed for this perversion of it must be license. And license to do what? To be false, to express on the exterior of buildings what had no possible relation to the interior, to torture materials into absurd and fantastic forms, to practise on the credulity of the public, who know neither right nor wrong in architecture. The simple question was, what was that right and wrong? Did they, as architects, acknowledge that there was right and wrong in Art? Should they not strive after the right, instead of prostituting their art? Mr. Seddon asserted that if they would do right, and exercise their reason, and consult common sense, they would find but one architectural language wherewith to express themselves—a complex one it was true (he did not say Gothic), as complex as was the English language in literature, the outcome of the whole of the past. Founded on the Classic (that is the Greek), which in itself was dead, but not stupidly stopping short with the lintel, not following the Romans in their misapplication of the Greek, but rather the Christian styles, which took up afresh the problem of grafting the arch upon the architecture of the world, and adding, as science grew, the pointed to the round arch, and went on adding truths and beauties as they could discover them, until architecture itself was destroyed, and its place taken by copyism and chaos. But architecture died hard, and in our country fell from stage to stage, from Elizabeth to James, and only one step of more rapid degradation remained—that of the period of Queen Anne, which was the last flickering of the flame, but those flickerings were its remnants of Gothic (or universal art) life, and it was these faint gleams alone, which (looking back over the only real dark ages of the world in regard to art that have intervened) rivet us by their charm. Instead of going back to Queen Anne, Mr. Seddon counselled them to go back to the period whence Queen Anne derived all that it possessed of inspiration, and beyond the period whence it got all its impurity and absurdity, and whither should they go but to Gothic, that not being a style in opposition to Classic, but its outcome and culmination. Loving architecture as an art and hating its prostitution to purposes of trade, he spoke, not with a view to please, but with at least a hope of being able to convince.

Mr. R. PHENÉ SPIERS, in proposing a vote of thanks to Mr. Stannus, said that he agreed in the main with a great deal that he had said, and also re-echoed Mr. Seddon's sentiments to almost the extent they had been expressed. He agreed with what Mr. Seddon had said about Queen Anne, but he differed from him when he went so far as to say that he would like to strip a Classic building of its ornament, that it might then be seen what was left of it; for he (Mr. Spiers) had no objection to such a process, as Classic work was based upon true principles of proportion, and even the skeleton would be beautiful. On the other hand, Gothic was to a great extent based on ornament, and if stripped of it would not have much left; but Classic, when relieved of ornament, would come out much grander, certainly the Roman. His main objection to Queen Anne was its being such dangerous ground for students to work upon; but Mr. Ridge, in his strictures upon Classic, said in effect that it was confined to the Bath and Temple styles. That statement was, however, easily disproved by the remains of Classic work, there being a series of buildings in that style almost as extensive as those of a later period. Mr. Ridge had

assumed that we were quite ignorant upon the subject of the old Roman domestic work, but they could not dig round Rome without coming upon buildings of the third and fourth centuries; there were hundreds of buildings of every possible form. There was one building scarcely sufficiently studied at the present time, and which took out all the cream of the invention of the arch, namely, the baths of Caracalla. In that work, and in Roman work generally, they would find most of the elements of Classic work, and where the Romans failed was in endeavouring to decorate their buildings. They tried to apply to their magnificent brick buildings features which belonged to another style, and were intended for different purposes. They had not time to produce an original style out of it, but adopted the decorative forms of Classic work. Mr. Ridge had spoken of a new style in France called Neo-Grec, and thought it was a good thing for the French to endeavour to infuse a little of the Greek style into their works; but the Neo-Grec was not such a very new style, as it dated from the commencement of the present century. In France the students had one great advantage in dealing with Classic architecture over students in England, as they never thought of designing in such and such a style; the question of style had been at rest for two or three hundred years. It was true that there were the pure Greek and Neo-Grec style, also the Franco-Italian style, the pure Romanesque style, and another style something like the "hodge-podge" described by Mr. Stannus; but if we had the same system of study in England as in France, Classic would have a much better chance than it now had. Mr. Spiers repeated that he objected to Queen Anne, because it put students on a wrong track. He agreed with Mr. Hebb that literature had a great deal to do with architecture, and the revised Italian might be due to the influence of Dante. The works of Rossetti, followed by those of Thackeray, had no doubt contributed to the development of Queen Anne.

Mr. BLASHILL, in supporting the motion, suggested that they were wandering from the main question under discussion—the object he presumed not being so much to have a new battle-ground as to discuss the style of Queen Anne. Such an occupation would be more profitable than entering upon a discussion as to the merits and demerits of the Classic and Gothic styles. For his own part he agreed with a great deal that had been advanced by Mr. Stannus. Those objectionable features introduced by the disciples of Queen Anne did not in fact belong to the style, for he had visited houses, dating from 1705 to 1710, which did not possess any of the ugly characteristics of the modern Queen Anne. His own impression was that certain gentlemen had grown tired of the style in which they had long been working, and that the change was merely a fashion which, like other fashions, would pass away. He agreed with Mr. Spiers in hoping that the fashion would not fasten itself on young men who had not learnt to think for themselves. Considering the impurities that had developed in Gothic, he was not surprised that there should have been a revulsion of style, but what did surprise him was to find men of talent identifying themselves with such a change as had occurred.

The discussion was continued by Mr. Tarver, who reiterated his conviction that Queen Anne was applicable chiefly to internal purposes, and he took the opportunity of criticising the plaster work exhibited by Mr. Stannus.

Mr. J. J. STEVENSON thought that he had already said quite enough upon the subject, and his views were pretty well known, but his aim had not been so much to defend Queen Anne as to attempt to account for the fact that such a style had sprung up. He still adhered to what he had already said, nothing having occurred to alter his views. He had said that he cared little in what style a man worked so long as he worked in a style which he thoroughly understood—of which he understood the grammar and in which he could naturally express his feelings. He believed that the number of influences now at work in every civilised country had an important bearing upon questions of style—the state of modern society being very different from the time when one style pervaded the whole country; the altered state of affairs being such as to necessitate a change or succession of styles, or fashions if they liked so to speak. He might say that his motives for working in Queen Anne were not (as might be inferred from Mr. Seddon's address) to obtain notoriety by any means, nor did he admit that the style was "garbage," or an attempt to practice upon the credulity of the public. He had no desire to damp the ardour of the respective adherents of Classic or Gothic; by all means he would say, let them do good Classic or good Gothic, but his object had been to show that Queen Anne was nothing more than a natural development. He believed it was the result of various influences—in fact, of the accumulated influences of centuries—and any style, whether in literature or art, was affected by similar influences. As to the defence of some of the features in Queen Anne which had been criticised, he regarded them as attempts to put some interest into Classic. He still adhered to the argument that Queen Anne was a Classic style—a form of vernacular style, so to speak, understood by the workmen of the country. Pilasters had been strongly condemned by Mr. Fergusson and others, but their use was not indispensable, as they could leave them out if they liked; he did not, however, see why they should be objected to more than string courses. He held that it was legitimate to use for ornamental purposes what might originally have been intended for constructive uses, such things having in course of time become refined and ornamental. Various epithets had been applied to the several phases of Queen Anne, but Mr. Stevenson thought that the whole were included in the name of "Free Classic." It was true that freedom did sometimes degenerate into looseness, and everybody wanted purity of style; but what was this purity? In domestic matters they wanted occasionally to be a little playful, and to have a little liberty, not to be always severe and rigid. Although freedom did sometimes degenerate into license he could only say that he thought even this was better than death.

Mr. RIDGE said he supposed that he ought to say something, as his name had been often mentioned in the course of the evening. He thought that by purity of design was meant simplicity of form and fitness in its application to the building, whether in reference to ecclesiastical or domestic

work. He discussed the question about pilasters and string courses, and thought that the former tended to break up the wall into vertical divisions by reason of imperfect bond, while the latter bonded it more perfectly. He thought, therefore, that the use of pilasters in Classic or Queen Anne was not good architecture. With regard to the use of columns and arches in woodwork, there were Gothic precedents for it, and he thought it was therefore right.

The vote having been put from the chair and carried,

Mr. STANNUS, in acknowledging the compliment, said that as Mr. Seddon had admitted the justice of his strictures on certain inconsistencies in Gothic, and as Mr. Ridge had tacitly admitted the incorrectness of his charges made against Classic, which were two points he had been pleading for, he considered that part admitted. He was sorry to have taken up so much time in refuting the obsolete theory of the "Order," but as it had been re-furnished up by Mr. Ridge in aid of the indictment against Queen Anne, it had become once more necessary to lay it. He disclaimed all idea of objecting to Mr. Seddon's work; on the contrary, he thought it very good and instructive; he only wished to point out that if certain principles were wrong in Classic they were wrong also in Gothic. He was glad Mr. Seddon agreed with him about the "Mystic" style. He supposed Mr. Seddon's objections applied rather to this than to the more common-sense Queen Anne, as shown in Mr. Stevenson's work. Mr. Seddon had objected to the Foreign Office as a Classic building, in which five storeys were made to appear as three; but he wished to point out that this was designed by Sir G. Gilbert Scott, who was not generally accused of being a Classic man. He would further say that the features to which Mr. Ridge had taken exception in his sketches were not integral elements of Classic work. In thanking Mr. Tarver for his friendly criticism, Mr. Stannus desired to explain that certain of the cornices were in imitation of stamped plaster work. He acknowledged the kind manner in which his imperfect remarks had been received, and thought that he deserved their thanks more for having brought Mr. Seddon among them to give them the benefit of his opinions than for anything he had said himself.

It was announced that the next meeting, on April 30, would be the members' annual *soirée*.

THE HOTEL DE VILLE, PARIS.

THE Paris correspondent of the *Daily Telegraph* says:—The designs originally approved for rebuilding the Hôtel de Ville have been abandoned. The former edifice was in many respects inconvenient, and it lacked sufficient space. To give room, the architect proposed to have an area, and with this idea the foundations were laid so deep that in four years they are but just completed. The new Municipal Council, however, is not satisfied, and further progress has been stopped. MM. Ballu and Depertthes, who have charge of the construction, have drawn up a new plan, by which the hotel is raised 6 feet above its former lines. Of course the historical *façade* has to be restored, and as much of the interior as is possible. To comply with this exigence, three fine *perrons*, or double flights of steps, are proposed, leading down from what was once the ground level. It is not yet decided whether the great frescos of the interior shall be reproduced as nearly as can be, or whether modern painters shall be allowed to show their skill. *Apropos*, the administration of Paris has recommended that elaborate series of engravings which is to preserve at least the memory of treasures perpetually imperilled in this volcanic city. The frescos of Saint Germain des Prés are already reproduced, and will be published soon. Those of Saint Eustache approach completion. From the Hôtel de Ville are selected the "Four Seasons" of Cogniet, which once decorated the Hall du Zodiaque, and the "Apotheosis of Napoleon," by Ingres, from the Salon de l'Empereur; both these were well advanced before the burning. The twenty-eight pictures by Lehmann surrounding the grand Gallery des Fêtes will next be undertaken from the best copies to be procured.

EDINBURGH ARCHITECTURAL ASSOCIATION.

AT the last meeting of this association, Mr. Robert Anderson, president, being in the chair, a Paper on "Furniture and Interior Decoration" was read by Mr. John Lamb, the subject being illustrated by a selection of Turkey and other carpets and tapestries in various styles and colours, which were hung around the room. After referring to the pure examples of decorative art we have in the productions of India, as shown in their carpets, tapestries, and shawls, which, he said, were acknowledged to be as perfect as can be procured, and therefore suitable for imitation in the productions of our own country, Mr. Lamb proceeded to show that from the study of art in its native simplicity the standard of art knowledge was gradually being raised. This was, he thought, exemplified in the great improvement which had taken place in relation to house furnishing and decoration. A variety of designs and sketches bearing on the subject were also exhibited.

THE TEMPLE BUILDINGS AND THE EMBANKMENT.

THE Works and General Purposes Committee of the Metropolitan Board of Works presented a report at their last meeting on the 16th inst. on a letter from the treasurer of the Middle Temple asking the Board to introduce a clause into their general Bill in the present Session of Parliament authorising the erection of two towers in connection with an extension of Harcourt Buildings, Temple, in advance of the frontage line laid down in the Thames Embankment Act. The erection of the towers was recommended by the architects to remove the unsightly appearance the new buildings would have from the embankment. The committee recommended that the request be complied with, and on the motion of Mr. Richardson, the report was received and the recommendations agreed to.

THE NEW SCHOOLS AT OXFORD AND THE BODLEIAN LIBRARY.

IN a Convocation of the University of Oxford held on Tuesday, it was proposed that the following instructions be given to the delegacy ordered to be appointed under the decrees of December 2, 1873, "for the business of building new Schools on the site of the Angel Hotel"—viz., to divide the proposed work into two sections—(1), the front Hall, or the part of the building that is to face the High Street; (2), the Schools proper—so that separate contracts might be obtained for each part; to submit the plans and estimates for each of the two sections separately to convocation, in the hope that possibly a plan for well arranged schools might be accepted, even if architectural opinion be against the plan proposed for the front hall.

The DEAN of CHRIST CHURCH gave the history of the "Schools" question. He explained how, if this decree were accepted, the removal of the Bodleian would necessarily be given up, but that the fate of the Bodleian was not raised by its rejection. He intended to support the decree, because he thought the library should remain where it was, because the schools must be moved, and because no other site offered.

Professor ROLLESTON urged that the decree was premature, the Colleges had been appealed to and their replies were not as yet published. On financial grounds, too, the wants of the Bodleian, which were great, should be attended to first, and lecture-rooms should be built before examination schools. Then, as to the question of site, was not Hertford College in the market?

Professor PRICE dwelt upon the difficulty of finding 60,000*l.* for the purpose. In finding it, how was the University to provide for the wants of the Bodleian, of chemistry, and other interests? He recommended delay on several grounds; among others, that if colleges contributed it could not be at once, owing to their present encumbrances.

Dr. PUSEY held that the University income being on the increase it might now dip into capital. He recommended embellishing Oxford by "Schools" in the High Street.

Mr. ROGERS pointed out that it was the business of the Colleges to support the Museum. The University was bound, before all things, to consult the wants of its undergraduate members. As for expense, that of removing the Bodleian would surely be far greater than the cost of new schools.

The WARDEN of WADEHAM said that much money, no doubt, would be wanted; but it need not all be spent at once, nor out of income. It should be spread over thirty years.

Mr. GEORGE complained of treating separately the inside and outside of a building. Surely, it was possible to wait for the site of Hertford College, getting rid, in the meantime, of that white elephant, the Angel site.

Mr. SIDGWICK contended that the real question was the Bodleian and its future. As for examinations they were in a transitional state, and the present demand for space was not the measure of the future. He would not have the present makeshift system stereotyped—especially, he might add, when there was a general feeling in the air that somewhere there was much money to be got at—of course, as each man thought, for his individual hobby.

Mr. NEATE observed that it had been suggested that All Souls' might be made over as a professorial establishment; in that case its buildings would be University buildings, and part of them might be appropriated as schools. There was, however, he observed, no hurry.

Professor PALMER argued that, financially, the University was in a position to build. Let the question of the Bodleian removal be settled; and it would be settled in the negative by voting the decree.

Mr. WARD, of Hertford College, urged that the question as to Hertford should be settled first. The University was at that moment in possession of an estimate of the value of that site.

The PRINCIPAL of HERTFORD COLLEGE did not see that Hertford College was in question. After all, more Schools were not wanted; nor, for the matter of that, more room for the Library, which should be "weeded."

Dr. ACLAND would vote against the decree on the grounds given by Professor Palmer for voting for it. When he became chairman of a committee on the subject, he was against the removal of the Bodleian. But Captain Galton, as a result of his survey, was against spending large sums on the present building. "To make it worthy of Oxford," he said, "you must practically gut it, re-roof it, and refit it." He, therefore, would not have the decree passed simply to fill up a hideous gap in their main street twelve months sooner.

The LIBRARIAN of Bodley thought it had always been agreed that the Schools should go to the Angel site. If not, where was Bodley to go? For his part, he had no idea that the question of the Bodleian was involved.

Mr. BURTON disagreed with Dr. Acland, and thought Sir G. Scott would be the best architect to consult.

Mr. DANIEL was surprised that the Librarian had been so unconscious of the discussions which of late years had opened up afresh the question of the position of the Schools. A vote of past years was not irrevocable. He pointed out that on the hypothesis of Hertford College being available, there need not be new Schools, but only an extension of the present ones.

Mr. GREEN dwelt upon the exceedingly unwholesome character of the present Schools. He would vote for any measure that would give good examination rooms.

The VICE-CHANCELLOR summed up strongly in favour of passing the decree, which would advance the Schools' question, while that as to the Bodleian would be left still more free for unbiased consideration; as to Hertford College, even if it might be got for the University, it might be required for such things as lecture rooms, public offices, a library for unattached students, &c. The financial question he made comparatively light of. The University, if in no other way, must raise the money by taxing its members a little more.

The decree was carried—there being 58 placet, 36 non-placet.

THE PALESTINE EXPLORATION.

A LARGE number of valuable and important identifications are newly advanced or supported in the April *Quarterly Statement*, just issued, of this fund. Among them comes first, and most important, the site of Bethabara, the place where John baptised; the name is still preserved in one of the many previously unknown fords of the Jordan discovered in the course of the survey. It is illustrative of the value of the new map that it will show no fewer than fifty of these fords, against eight in the best map at present existing. The "Tower of Ader," the site of Jacob's camp, is proposed to be identified with the "Shepherd's Plain," near Bethlehem. Lieut. Conder proposes sites also for the "Valley of Blessing" and the town of Bezeth; he has traced Pilate's Aqueduct to its conclusion, and furnishes an accurate survey of Tell Jezar, where M. Ganneau found the now famous inscription marking the ancient Levitical boundaries. The number contains, also, a drawing of the mountain where Lieut. Conder found the "Altar of Ed;" an account of the recent excavations in Jerusalem conducted by the Germans; of the discoveries and excavations in connection with the First Wall of the city by Mr. Henry Maundslay; and important papers by Major Wilson and Captain Warren, the latter giving his reconstruction of the Temple of Herod. The survey party are now in Philistia; the total amount of work done up to the present is nearly 4,000 square miles.

With regard to their financial position, the committee ask for the sum of 3,500*l.* before the end of the year. This will enable them to clear off their debts as well as to support the survey expedition.

We have already noticed a report by M. Ganneau to the committee on the characteristics of the Mediæval masonry in Palestine. On this subject there are in the *Quarterly Statement* some remarks by Lieut. Claude R. Conder, R.E., who has now charge of the survey, which have interest. "It is," he says, "almost always easy to tell a stone of the Crusading time for several reasons. First, the masons' mark, which neither Jewish, Roman, early Christian, nor Saracenic builders seemed to have used, except in the case of the north wall of Bealbek; second, from the stone having been well selected, its edges sharply cut, the joints fitting very closely, and the corners very squarely made. The stone is laid apparently with due regard to its quarry bed, and a hard species of maceh is preferred; thirdly, from the dressing, which differs from that of the earlier styles, and is far finer than the Saracenic tooling.

In those specimens of masonry belonging to Crusading interiors, which I have studied with special regard to the tooling of the masonry, and of which the best examples are the Madeleine and Ste. Marie la Grande in Jerusalem, I find that the stones are finely dressed with a pointed instrument, in lines generally parallel, or very nearly so, and differing in interval.

Some of the lines are continuous chisel-marks, others are in detached strokes of various lengths. These are diagonal, vertical, horizontal, or, in less careful specimens, curved; and sometimes the same stone is differently dressed in various parts. All the varieties will occur in a single wall. In very many cases some parts (perhaps harder, or found to project when the tooling had been completed) are tooled with short strokes in a direction opposite to the general lines. The great blocks of the piers, which are remarkably fine specimens of masonry, are differently dressed. In these the surface of the hard stone has a mottled appearance, as though worked with a blunt point, carefully and lightly struck at right angles to the face of the stone.

In studying the masonry of the Arab additions to the Muristan, I find the Crusading tooling imitated, but the work is less patient, the strokes less regular and farther apart, the corners and edges rougher, and the appearance of the stone often very patchy. A toothed instrument is also often used.

It seems to me, therefore, that there would always be some danger of mistaking between the better specimens of Saracenic masonry and the worse of Crusading origin; and although the tooling of the stones may be at times of use in absence of other indications, its importance must be held secondary to that of the masons' marks. In general, the appearance of the stones, without a more minute inspection, will suffice to give a tolerable guess at their character; but nothing like certainty is possible unless masons' marks can be found.

These remarks only apply to the smooth-dressed masonry of interiors. The coarse hammer-dressed stones of the outer walls show neither masons' marks nor fine tooling in any Crusading building I have examined."

THE GLASGOW DRAINAGE.

A REPORT by the Sanitary Inspector of Glasgow has been issued by the authorities in view of the inquiry by the Government Commission into the pollution of the Clyde. According to this document the main sewers and natural streams within the city boundary used for drainage purposes measure nearly one hundred miles, and these receive and convey in their ramifications through the city the sewage from 101,368 dwelling-houses, and from 16,218 sale shops, warehouses, manufactories, and workshops. These sewers discharge their contents into the Clyde from forty-two outlets, thirty-three of which are below the weir, with two manufactory outflows by private drains—the one a chemical work and the other a distillery—and nine above the weir. In addition to the latter, twenty manufactories discharge their waste outflow by private drains directly into the Clyde. The estimated volume of the whole discharge into the river daily, exclusive of rainfall, as near as can be calculated, is 40,000,000 gallons, or at the rate of 70 gallons per head of the population. Most of the manufacturers, it is stated, have adopted the best known means to render their outflow innocuous. An analysis of river and sewer water is given, and also a return giving the number of houses, manufactories, and workshops in each street, and the drains and water-closets in communication with the main sewers, &c.

ASSYRIAN ART.

MR. GEORGE SMITH, of the British Museum, delivered a lecture on Assyrian Art at the City and Spitalfields Art School on Monday last. The lecturer said that Assyrian history commenced 2,000 years before Great Britain was known. Assyria possessed a very ancient style of art, which was the natural growth of the country. The wedge-like form of the Assyrian writing had caused the characters to be called cuneiform, or wedge-shaped. The Assyrians not only stamped writing on their bricks, but naturally they used it for more important purposes. They wrote in minute characters upon oblong tablets of clay, which were afterwards baked as usual, and then placed in sets in a regular library. He had before him a cast of half of one of these tablets, the now celebrated "Deluge" text. The writing on the tablet covered both the front and back, and was arranged in six columns, each of these columns containing over fifty lines of cuneiform characters. The Assyrian inscriptions, describing the "Deluge," were not the originals—they were copies made by the order of an Assyrian monarch, from earlier Babylonian texts; and they were discovered among fragments of the time of Assurbanipal, King of Assyria. Upon examining another kind of tablet, which he would call a case tablet, it would be seen that on it were inscribed cuneiform characters enclosed in a second tablet, which consisted of a shell or skin of clay, inscribed like the inner tablet. Upon inspection, the two tablets showed that the subject described on each was the same, and it referred to a law case. With respect to the buildings, Assyrian architecture had its origin really in Babylonia, and there being very little stone there, while excellent clay was abundant, it was natural that the buildings should be constructed of brick, and not of stone. Then, again, the scarcity of trees, and absence of materials for wide span roofs, caused them to construct long, narrow apartments, while the heat of the sun, and want of strength in the sun-dried bricks they used, led them to construct very thick walls. There was no beauty either in the material or shape of these buildings, and to give them ornament they painted them either in plain colours or with figures, or gilded parts, and, where possible, faced the walls with slabs of stone on which figures and inscriptions were carved. The Assyrians excelled in painting and sculpture. Few of their paintings of course remained, and these consisted of wall decorations; but the British Museum possessed many fine examples of Assyrian sculpture. With regard to metal work, the Assyrian people cast and worked gold, silver, iron, copper, bronze, and lead; they beat out gold into leaves to gild their buildings and furniture; they cast it into statues; they carved inscriptions upon it. Iron was manufactured into weapons and ornaments; and bronze served for utensils, furniture, gates, inscribed tablets, and numerous other works. Ivory was manufactured by the Assyrians into handles for weapons, ornamental boxes, thrones and chairs, sceptres, and similar objects. In the manufacture of glass they had also reached great perfection. The old story, according to which glass was accidentally discovered by some Phœnician merchants, proved to be a complete fable, for glass was known long before, both to the Egyptians and to the Assyrians. In conclusion, Mr. Smith said that his aim at giving a short sketch of Assyrian art had been to give rather some general interesting information about the specimens, that it might lead to further inquiry on the subject.

"RARE CHINA."

IT has lately come to our knowledge, says the *Staffordshire Advertiser*, that an unscrupulous speculator has sent into the Potteries some clumsily-forged Sèvres china, one or two pieces of which have "changed hands" at high prices. If this enterprising person expected to find numerous and eager buyers in that district he has probably by this time discovered his mistake, for the number of *bonâ fide* collectors there is remarkably few, nor are they at all likely to be taken in by the forgeries referred to. The peculiarity of the imposition in this case is that the china itself is really Sèvres, and bears the genuine mark of that famous establishment, but every stroke of the decoration is forged. The ware was issued from Sèvres in the white state, and every piece bears upon its surface a mark which tells this fact to the initiated. Dealers in commodities of this kind take care, however, to lay their baits only before the inexperienced, and doubtless they will think we are "harassing" their trade unjustifiably if we expose the fraud, but we must risk incurring their displeasure. Let it be noted, then, that when ware is issued from Sèvres in the white state a deep scratch is made with a glazier's diamond across the mark of the factory. The forgeries we are speaking of were indelibly marked in that manner. While on this subject, we may as well say that some of the London dealers in Mrs. Malaprop's "articles of bigotry and virtue" are improving the occasion of the old china mania by having made in the Staffordshire potteries considerable quantities of "genuine old" Chelsea, Dresden, Worcester, and numerous other varieties coveted by collectors.

On this subject the *Pall Mall Gazette* says:—The existence of forged china is probably admitted by every collector, however dispassionate he may be to believe in his own luck or to trust to his own discernment; but the information that the manufactory is going on at this moment in Staffordshire may be more disturbing than the knowledge that at some undefined time and place decorations have been copied and marks imitated. Perhaps the worst feature of this trade is the hopeless uncertainty to which it condemns future collectors. Those who are already devoted to the pursuit may at least console themselves with the reflection that some of their treasures were bought in ways or at prices which make it improbable that they could have been mistaken in them. Before collecting became the fashion that it now is there was not much inducement to forge old specimens, and wherever an inducement exists, it is obviously not the interest of the forger to sell his wares too cheap. Those who have had their old china for fifteen or twenty years, or have unearthed it in remote places and given what now seems almost nothing for it, may live happily in retrospect if not in prospect. But when the china mania gives place to some other mania, as in time it is sure to do, the market, though depreciated, will not be cleansed. It will remain flooded with these counterfeit wares, and the collector of an-

other generation who anticipates the next revival of the taste will never be certain whether he is buying the Worcestershire Worcester of the eighteenth century or the Staffordshire Worcester of the nineteenth. For that matter, indeed, he will have no right to feel sure that he is buying even English Worcester. Many of those blue-and-white tea services and open-work baskets which are to be seen in the window of every fashionable curiosity shop come from the other side of the Channel, and owe their being to the ingenious industry of France or Belgium. Tournay, for example, is the seat of a most flourishing manufactory of counterfeit china, and, from a similarity, perhaps, between the colouring of its own acknowledged productions and that of Worcester, has given special attention to imitations of that particular ware. When originals and imitations have alike fallen into neglect, and alike regain popularity fifty years hence, who is to pronounce whether it is the dust of half a century or of a century and a half that will have to be brushed off them? Old furniture is quite as effectively imitated as old china. In this case, however, it is usually the ornamentation only that is new. Throughout the last century every piece of furniture, however common, was made in the same style and on the same general design as what is now known as "decorative" furniture, and there are still great quantities of it to be bought at a lower price than the same goods could now be made for. These common chairs or tables or cabinets only need the addition of appropriate ornament and exhibition in a fashionable dealer's rooms to take rank and value as fine old Chippendale or marqueterie furniture. There are many workmen in London who are mainly or wholly employed in "enriching" goods for the old furniture market. The common oblong mahogany table that used to be found in every bedroom has an open work "gallery" added to its top, and a veneering of fretwork glued round its edge. The useful mahogany sideboard which once existed in every "parlour" has bands and medallions of satinwood judiciously inserted. The chair or the cabinet which passes into the hands of the inlayer as a piece of unadorned mahogany or walnut comes out of them glowing in all the colours that nature or the dyer can give to woods. The vendor probably tells his customer nothing but the truth. He says that the furniture is old; and so it is. There is nothing new about it except the bits of decoration here and there, which do not make up a hundredth part of its bulk, though they increase its price twentyfold. There are handbooks nowadays which profess to teach people how to buy almost every kind of "curiosity," but there is abundant room as regards china and furniture for a handbook which should teach them how not to buy. It is by far the more difficult art to master, but a judicious teacher might do some good if he only succeeded in instilling doubt into the purchaser's mind and thus occasionally staying his hand. Lavish and indiscriminating buyers do more than anything to encourage forgeries, and if they could be taught that money alone will not give them what they want, this new demand on the imitative ingenuity of Staffordshire might receive a much-needed check.

THE NEW "CANTERBURY PALACE AND AQUARIUM."

AN extensive building, under the above title, is now in course of construction in Westminster Bridge Road. It will comprise an aquarium, on a large scale, a fernery, a skating rink, picture gallery, with a theatre for musical and dramatic entertainments, and billiard rooms. The ground-floor portion of the elevation is carried up with columns in polished Aberdeen granite, and the whole of the upper portions of the frontage are in Portland stone, elaborately carved, and ornamented with sculptured figures. There are three storeys in addition to the ground-floor, and the building is covered in with a domed roof, surmounted by a cresting in ironwork. The windows in the several storeys are divided by shafts in polished Aberdeen granite. There is a spacious entrance from Westminster Bridge Road, from which a wide stone staircase leads up to the first-floor which will contain the aquarium, the water for which will be supplied through tubes or columns of an ornamental character, rising from the ground-floor. The aquarium department will also be extended to other portions of the premises. The principal entrance also leads to those portions of the premises on the ground-floor, consisting of the land and railway arches belonging to the South-Western Company, which are being covered in, and will be laid out and fitted up as skating rinks, ferneries, billiard rooms, reading rooms, and smoking rooms. Beyond these again, approached through the railway arches, is the wellknown Canterbury Hall. The present structure is now in course of demolition, and on the site a new theatre and concert room, of large proportions, will be shortly erected, in connection with which there is to be, as before, a picture gallery. The whole of the works are expected to be completed during the ensuing summer.

The architect for the whole of the buildings and works is Mr. A. Bridgman, of the Poultry, and the proprietors are carrying them out themselves, under the superintendence of Mr. W. C. Selvey, as clerk of the works. It is estimated that the cost of the undertaking will not be less than 20,000*l*.

ELY CHAPEL.

IT has long been suspected that St. Etheldreda's Chapel in Ely Place was still possessed of its ancient timber roof, although carefully concealed by modern disfigurements; any doubts on the subject were last Monday set at rest, when, by removing slates in a line up to the ridge, a roof in the simple and severe style adopted by fourteenth century architects, was laid bare. Its construction is that of a coupled rafter roof; there is no ridge piece and no longitudinal tie except the two wall plates and the external boarding, the rafters averaging 8 inches by 6 inches laid flatways, are about 9 inches apart, there is a vertical strut framed into the inner wall plate and the rafters, and above are crosspieces and a collar all about 8 inches by 4 inches; all the pieces are united by double tenons, and secured with projecting wooden pegs; the material used appears to be chestnut wood, and is in good preservation. The architects, Mr. John Young, jun., and Mr. Bernard Whelan were enabled to make a measured drawing of this interesting piece of ancient carpentry.

PROPOSED INDIA MUSEUM.

ON Wednesday, Dr. Forbes Watson, reporter of Indian products and director of the India Museum, read a Paper before the Society of Arts, proposing the erection, in a suitable position, of a building capable of affording accommodation to the India Museum and the India Library, and which would likewise provide the lecture rooms required for the purpose of an Indian Institute for lectures, inquiry, and teaching. The cost of the building, he said, should be shared between England and India—a recommendation which has secured the general support of the Chambers of Commerce of the United Kingdom, most of whom have memorialised the Prime Minister on the subject. The Indian Institute would have to rely solely on private support, and the formation of an influential committee is now under consideration for the purpose of deciding what steps should be taken to secure the foundation of such an institute. The leading principle as regards the future management of the India Museum consists in adopting a division of functions between the Central Museum and its local branches. The Central Museum would be, not only a store or reservoir of the accumulated knowledge of generations, but likewise a laboratory or workshop, in which typical collections would be prepared which would epitomise the leading features of every one of the leading features of the museum, and which, reproduced in identical sets, would form the essence of the local museums, which would have to be established with private co-operation in numerous places, both in this country and in India. The Central Museum would thus be mainly an institution for increasing our knowledge, while the local museums would be the means of increasing the number of people possessed of that knowledge. The principle of using a Central Museum as a workshop for the preparation of typical collections is likewise applicable to the other great museums of the country. The cheapness, compactness, and simplicity of these collections is sure to facilitate their extended use throughout the country, and the true solution of the now much debated question of commercial and technical education will lie in the adoption of some such plan as that now proposed for the management of the India Museum. The collections of the India Museum will be first open to public inspection, in their temporary home at South Kensington, on May 25, on the occasion of a conversation given by the President of the Institution of Civil Engineers, and will be open to the public generally a short time after that date. The permanent building for the India Museum would cost about 100,000*l.*, which would have to be spread over several years; so that no great sum would be required in the current year if the erection of such a building were finally determined on. The site in Charles Street, opposite the India Office, is the one recommended on all grounds of public expediency, being easily accessible for official reference, in the very centre of political life, and not far from the centres of business.

LEGAL.

Rolls Court, Chancery Lane, April 21.

(Before the MASTER of the ROLLS.)

HAWKINS v. ALDERSHOTT SCHOOL BOARD.—THE LIABILITY OF SURETIES FOR BUILDERS.

By contract in writing, dated January 24, 1873, James May, a builder, agreed with the Aldershot School Board to erect a school for the sum of 2,365*l.*, in accordance with a specification which provided that the whole of the work should be completed and the building ready for occupation by July 26, and, in default, that the School Board should be at liberty to deduct from the amount of the contract, and from any money due to the contractor, the sum of 2*l.* for every day during which the completion of the building might be delayed; that the contract price should be paid by instalments; that each instalment should be liable to all deductions and forfeitures named in the specification; and that such deductions should be set off against each instalment. On the same day the plaintiff, James Hawkins, signed a bond for 500*l.* as May's surety. May having fallen into difficulties, and being discharged by the architect, Hawkins proposed that Messrs. Martin, Wells & Co., builders, should be employed to finish the job, and the School Board passed a resolution that "they saw no objection to the arrangement, provided all the rights and claims of the Board, as stated in the surety bond, be not interfered with." Accordingly, by a contract in writing, dated August 8, 1873, Martin, Wells & Co., agreed with the School Board to finish the work for 2,365*l.*, exclusive of the value of the work done and the materials left on the ground by May. As the work progressed, payments were made by the School Board to the new contractors, without any deduction, on the architect's certificates; but on the occasion of the final payment in January, 1874, a considerable deduction was made in respect of several items of expense incurred by the Board in consequence of the building not being ready for occupation by the stipulated time. Having thus settled accounts with the new contractors, the School Board, in April, 1874, claimed of Hawkins the sum of 198*l.* as penalties for the non-completion of the contract by July 26 previous, and on his refusal to pay brought an action on the bond. Hawkins thereupon filed the present bill, praying that it might be declared that his liability upon the bond ceased upon the School Board's settling accounts with the contractors, and that the bond might be delivered up to be cancelled, and the defendants restrained from suing thereon.

Mr. Southgate, Q.C., and Mr. Dundas Gardiner were for the plaintiff; Mr. Roxburgh, Q.C., and Mr. W. W. Cooper for the School Board.

The MASTER of the ROLLS, in the course of his judgment, said the conduct of the defendants had been as unjust as it was inequitable. The meaning of the building contract was that at the time of paying each instalment all penalties then due were to be deducted from it. By charging the substituted contractor with a sum of money in the nature of liquidated damages for breach of contract the School Board had deprived themselves of the right of suing for the penalties. Even if they had not done so by paying the instalments without any deduction, the School Board had varied the contract to the prejudice of the surety, and thereby released him from his liability under the bond. There must be a decree for the plaintiff, and the School Board must pay all the costs of the suit.

General

The Mantegnas at Hampton Court.—We have been asked by Mr. Henry Wallis to state that some artists and amateurs have had photographed the *Mantegnas* (Triumph of Julius Caesar) at Hampton Court Palace. It has been suggested that an opportunity should be given to persons interested in art to possess them. They will be printed in permanent pigments, size 20 inches square. The price, 2 guineas (which simply covers the cost of production), may be sent to the Honorary Treasurer to the fund, Mr. Joseph Dixon, 5, Brick Court, Temple. Post Office orders should be made payable to him at the Post Office, Fleet Street.

Mr. E. Roberts will read a Paper, on Wednesday next, before the British Archaeological Association, on "The Roman Way to Verulam."

Mr. T. A. Mitchell, formerly M.P. for Bridport, has left, it is said, the residue of his fortune to the Metropolitan Board of Works. The amount has been proved as being under 240,000*l.*

Mr. Campbell, M.P., has offered the town of Stoke a plot of land, worth 390*l.*, provided the Free Libraries Act be adopted, and a suitable building for a library and museum, and other purposes, be erected before Christmas, 1877.

Mr. H. Austin Lee, of the Foreign Office, has been appointed secretary to the Channel Tunnel Commission.

Dr. Anderson, C.E., LL.D., Superintendent of Machinery to the War Department, has been appointed to the supervision of the Machinery Department of the Philadelphia Centennial Exhibition.

Her Majesty has commissioned Mr. E. J. Williamson, of Esher, Surrey, to execute life-size statues in marble of Prince Albert Victor and Prince George, sons of the Prince of Wales, sketches for which he submitted to her Majesty lately.

The Library and Museum Committee of the Liverpool Corporation propose to erect a large reading room on a vacant site which intervenes between the Free Library and the Walker Art Gallery.

The Restoration of the old church at Cheltenham is to be commenced. The south aisle and transepts will be closed after Sunday, and handed over to Mr. Estcourt, of Gloucester. The contract includes the removal of the whole of the gallery and fittings on the south side of the church, and the complete structural restoration of it and the roof and upper portion of the nave, according to Mr. E. Christian's design.

A new Wesleyan Methodist Chapel is to be erected in Oxford in front of the present building, at a cost of 8,000*l.* 4,000*l.* was subscribed for the purpose at a recent meeting.

Manley Hall, the late residence of Mr. Sam Mendel, for which 120,000*l.* was lately given, is, it is stated, to be turned into a winter garden and aquarium.

Plans have been prepared for the construction of baths, a winter garden, bazaar, and assembly room, with restaurant, dining-room, and smoking-room, on the beach, eastward of the Brighton Chain Pier. For a concession of the ground required, the promoters will construct a sea-wall and covered roadway along the front of the structure. The estimated cost is 100,000*l.*

The Railway Station at Hythe, in Kent, has been raised about 3 feet by means of screw-jacks. The work has been successfully carried out.

The Lever Chapel, which forms a part of the parish church of Prestwich, and is supposed to have been founded in 1561, has been restored at the expense of Messrs. Lees, of Alkington Hall, and was opened on Sunday last.

The Foundation Stone of a chapel which Mr. Fraunce is erecting in the grounds of Kensington Workhouse was laid on Saturday last by the Princess Louise. Mr. A. W. Blomfield is the architect.

A part of the Liverpool landing stage, about 350 feet long, which was some time since destroyed by fire, has been reopened for traffic.

A Bishop's Throne, designed by Sir Gilbert Scott, is to be erected in the choir of Salisbury Cathedral. The cost, 800*l.*, will be raised by subscriptions from the clergy who have been ordained by the present bishop and his two predecessors.

On Monday last, in commemoration of the Battle of Lexington, statues of John Hancock and Samuel Adams were unveiled at Lexington, with orations by Richard Henry Dana and Charles Hudson. At Concord a statue was unveiled, and orations delivered by Ralph Waldo Emerson and George William Curtis. A poem was read by James Russell Lowell.

A Brass Eagle Lectern has been presented by a clergyman to All Souls, Langham Place, W., and which was manufactured by Messrs. Jones & Willis, Great Russell Street, W.C.

The Publication of Fac-similes of National Manuscripts of Ireland, published by authority of the Lords Commissioners of Her Majesty's Treasury under the direction of the Master of the Rolls in Ireland, which was discontinued in January last after the sale of twenty-five copies, will be resumed without delay.

A Committee has been formed, with the object of obtaining subscriptions, to place a costly marble slab (richly inlaid) over Byron's grave in Hucknall-Torkard Church. The president is Mr. Disraeli, and among the committee are Mr. Tennyson, Lord Houghton, and Mr. Wilkie Collins.

A Prize of 25,000*fr.*, granted by the King of the Belgians, will be awarded in 1879 for the best work on the architecture of Belgium. Foreigners will not be privileged to compete.

A Statue of Berryer, the Advocate, will be inaugurated at Marseilles on Sunday next.

The Court of Common Council are about to erect a block of buildings for married police-constables in Rose Alley, Bishopsgate. The estimated cost will be 8,200*l.*

The Contract for the erection of the Severn Bridge by Hamilton's Windsor Ironworks Company (Limited) was signed on Tuesday last. The consulting engineer is Mr. Harrison, the President of the Institution of Civil Engineers.

A General Exhibition of all the works of Corot that can be collected will be opened in the Ecole des Beaux-Arts as soon as possible, the Marquis de Chennevières and the manager of the School having decided to place the Salle Melpomène at the disposal of the committee which took the initiative in the matter.

The Architect.

THE ALEXANDRA PALACE.



HE Alexandra Palace once more opens its doors to the public to-day. It does so under circumstances so unique, and so creditable to the courage, the promptitude, and the tenacity of purpose of the directors, that it is impossible not to be moved to a feeling of hearty goodwill towards the whole undertaking. Never did a heavier blow fall on any public body than the complete destruction of the former Palace by fire within less than three weeks of its opening, and the spirit in which that blow was met is only one more illustration of the saying that Englishmen never know when they are

beaten. To a large extent the admiration which all will feel for the temper which this misfortune has called forth, and the spirit with which the mischief has been repaired, must serve to disarm criticism. Were a real Phoenix on view, we doubt whether we should be nice about its plumage or its shape as we might were it an ordinary bird, and the Alexandra Palace is the nearest approach to a Phoenix that this century is likely to behold. Many points in which the building and its decorations, perhaps, lie open to adverse criticism must, we feel, be dealt with in an indulgent spirit; and it will be more graceful and, we think, more in accordance with the general wish of our readers, if we prefer to-day to give prominence to those features of the building which can be pointed out for commendation.

The Palace as now re-erected stands on the same site as the old one, but it occupies more ground, covering an area of about seven acres and a-half. Its plan is a simple one, the block of the building being an oblong and having its greatest length from east to west. A single transept, if that can be called a transept which does not cross a nave, forms the centre of the building, and four towers with high roofs mark its four corners. Between the south end of the transept and the southern towers occur two blocks of two-storeyed arcaded buildings, all devoted (except a reading-room) to the purposes of refreshment. The corresponding spaces on the north side are occupied by a theatre and a concert-room. The two ends are occupied by two prettily-designed glass and iron conservatories, thrown out considerably beyond the line of the towers; and two large square spaces are thus left right and left of the transept bounded by buildings on all sides. One of these is open to the sky and is laid out as an Italian garden; over the other a light glass roof has been thrown, and it is devoted to the exhibition of goods for sale. Lastly, on the north side of the building, comes the railway station, on alighting at which the passengers can walk into the Palace under cover. There are, of course, many other individual rooms; there are two fairly commodious picture galleries, and there are the most extensive and complete cooking arrangements and cellars in the basement which it is possible to imagine, but the main outline is made up of the elements just enumerated.

The chief material is brick, and the general construction resembles that of an ordinary building much more than it does the Crystal Palace. The general character of the building is that it is low compared to the space it covers. The architect (Mr. JOHN JOHNSON) seems to have determined to avoid galleries and staircases, and that even in portions of his building where it would have been an undoubted advantage to possess them. The central hall—as what we have described as a transept may be more appropriately termed—is the feature upon which the building mainly depends for dignity of effect; here the prevalent lowness of proportion does not prevail, and a well-designed section with a semicircular roof and broad aisles has been adopted with an undoubtedly happy result. This terminates southward in a flat end, pierced with a large rose window; at the northern extremity occur the orchestra and organ, sheltered under a half-dome admirably calculated to throw forward the sound of the music. This hall has strong iron columns, carrying the roof, and dividing it into 14 bays. Its dimensions are stated to be 386 feet long by 184 feet wide (aisles included), and it is lighted partly by clear glass in the roof, and partly by a series of semicircular lunette windows, filled in with coloured glass of brilliant patterns. The rest of the decoration—and the whole of the hall is decorated in colour—does not take up the powerful key which these windows seem to set, and indeed is deficient in vigour and simplicity. This hall is enlivened by a series of statues of English sovereigns highly coloured, which tell admirably, and to some extent relieve the too indefinite tones of the walls. They are themselves clever works of art, and have been executed by Messrs. FARMER & BRINDLEY.

There can be little doubt that the effect of music in the transept ought to be good, though in all probability a troublesome amount of echo will be generated by the end wall of the transept facing the orchestra. If this be so those who sit far enough away from the

wall to hear the echo of one note at the same moment that the direct sound of the succeeding note reaches their ears will be inconvenienced. In other respects the transept ought to surpass that at the Crystal Palace, even when closed in for Handel Festival performances as an auditorium, and it possesses the great additional advantage that its occupants will be far less exposed to interruption and noise during the performances.

Next to the transept the most satisfactory features of the interior are the conservatories. Only one of these is actually occupied by plants, the eastern one being devoted to the exhibition of goods for sale, but the design of the two is identical and is very clever; the space occupied being nearly quadrangular, but divided by iron columns and arches, and formed into a T shaped building with high glass roofs flanked by lower portions. The plants, which, thanks to Mr. McKENZIE'S care, are in admirable condition, and are extremely well grouped, add very much beauty to the effect of this part of the building, which we venture to prophecy will become a favourite resort.

Throughout the interior sculpture has been freely introduced, that is to say, well executed casts of good statues are placed in all the positions appropriate to them, and enliven, to no small extent, the general effect. They have been tinted, uniformly, with a warm hue, that might be described as a very pale salmon colour, and though the coldness of pale white plaster is unquestionably dispelled by this proceeding, there is room to doubt whether or not some of the statues do not lose at least as much as they gain.

The absence of any large continuous space, except the transeptal hall, will render promenading on a great scale difficult, if not impossible, on days when such a crowd as will require the hall to be filled with chairs is collected. It is not quite easy to see what substitute can be arranged for this entertainment. Nothing in any exhibition is so interesting to most persons as the people themselves, and the frequenters of the Alexandra Park will desire to show their fine dresses and inspect those of their neighbours quite as much as the persons who visit Sydenham. We have no doubt that the public will find out some method of supplying this want, or that the managers will see the necessity of providing for it; but it must remain impossible for the Alexandra Palace to afford the same accommodation for this sort of lounge which the previous building, with its long nave, was calculated to furnish. Against this, however, must be set, not only the completeness and isolation of the central hall, but also the good isolated position of the concert hall and theatre. The concert hall is the least pleasing, and the least promising feature of the whole undertaking. Its low proportions and large cove are acoustically good, though they damage its architectural effect; but its flat floor, its flat side walls, and its absence of side balconies or galleries will tell against the due propagation of sound, while the recess for the orchestra seems almost too much contracted for due effect. The decoration applied to the ceiling has the unfortunate effect of increasing its apparent lowness, and altogether, both for sight and sound, this concert-room does not give promise of complete success. The theatre is more satisfactory. It is a peculiarly-planned structure, having a sloping floor and two end galleries or balconies of segmental shape, but no boxes, and here, as elsewhere, the architect has shown that his chief reliance was placed upon his ground-floor. The slope given to this floor renders it the more regrettable that a similar course was not taken with the concert-room floor, which, when of this great size (3,500 are to be accommodated) requires sloping, if not as much as the theatre, still to a large extent.

We have, however, left till now that which really seems the pervading feature of the whole scheme; a feature which alike by its large proportions and its prominent position challenges attention. We allude to what is called the "refreshment department." Dining rooms, of capacities varying from six persons to one thousand, occupy the entire south front of the building—two storeys of them; and as if this were not enough, a banquetting-hall, of rather pleasing design, to seat 1,500 more, is erected in the park, with we know not how many refreshment bars, counters, &c., at handy corners. The culinary arrangements are, as we have said, most complete and most extensive, and there can be little doubt that visitors, even on the most crowded days, will have only themselves to blame if they go hungry or thirsty in the neighbourhood of such profusely elaborate preparations for their reception.

We can not now attempt to describe the picture-galleries, still less their contents, or to enter upon the fascinating subject of the Japanese village and the oriental houses, which are to be found here. We must pass unnoticed for the moment the skilfully-designed circus now in course of erection in the grounds, and must refrain from even naming the many objects of archaeological and ethnological interest which the Londesborough Collection and the Whitfield Collection respectively present, but all these things will attract our readers when they visit the Palace. We must also omit, or at least postpone, any remarks on the exterior of the building viewed as an architectural composition, and content ourselves with pointing out that the substitution of brick for glass and iron renders any comparison between this building and the one at Sydenham extremely difficult. The cost of maintenance and renewals is no doubt lower in a substantial structure like this, but the original cost must be greater. The effect is totally different, and the

sense of space, and air, and regularity which all buildings designed on the model of the 1851 Exhibition convey is not present in the same degree. On the other hand, strength and solidity, and the possibility of architectural effects quite out of the reach of the architect who deals in iron and glass, are present in a building of this sort, and Mr. JOHNSON has shown his power of dealing with these elements, especially in the interior, to be by no means small. And in the construction of the work he seems to have been admirably seconded by Messrs. LUCAS and their experienced foreman Mr. CLEMENSON, and by Mr. PHIPSON, who carried out the elaborate and extensive arrangements for heating.

In conclusion, we heartily wish the Alexandra Palace every success, and we cordially congratulate the over-worked inhabitants of London on thus acquiring one other outlet where they may enjoy a rational day's amusement and breathe the fresh air, and forget, at least for a few hours, the smoke, the din, and the hurry in which too many of us are compelled to pass the greater portion of our lives.

"FREE CLASSIC" ARCHITECTURE.

THERE are certain subjects of controversy, as everybody knows, which are always better handled in a junior debating society than in an assembly of those older men in whom the effect of enlarged experience has produced that feeling of part timidity part indolence which goes so far to represent wisdom. Such a subject we have at the present moment in what is called the Queen Anne Style of architectural design, and the lengthy report which we gave last week of a discussion of this topic at a meeting of the Architectural Association furnishes a good illustration of the maxim we have quoted. There can be no doubt that the new mode is attracting a good deal of attention. It is almost exclusively amongst professional architects, and perhaps chiefly amongst the younger men; amateurs, indeed, and archaeological critics, are scarcely likely to take the matter in hand, if at all, with any degree of spirit; but those who are now so ready to engage in disputation regarding its æsthetic and historic merits and demerits cannot at least be denied the credit of that earnestness which always proves its subject to be one of genuine concern. It is useless, therefore, for the opponents of the movement to profess to settle its claims in a summary manner by an epigram or a sneer.

The laest observant of the public must be beginning to take notice of the circumstance that a considerable number of peculiarly quaint buildings are rising up in all quarters, whose chief characteristics seem to be identified with the use of red brick walls. Some of them have also steep roofs of red tiles, exhibiting their naked expanse rather ostentatiously. Some have garret windows of timber work; the same garret windows in red brick are the most prominent features in others; and even in the walls there is occasionally a sort of struggle for ascendancy between the red brick and the timber. The windows, the chimneys, the gables, take a variety of forms according to the inspiration of the designer; and minor ornamentation certainly appears to claim a good deal of license. On the whole it is difficult to say what may be at the drawing-board the essentials of the style; but in building there is one thing that may invariably be relied upon—there is a prevailing colour of red, whether in red brick, or red tiles, or red terra cotta, or even red stone (relieved, if at all, by crude white frames or dressings) that gives character to the building.

The red brick style might at first sight appear to be a good title for it; but the fact is that the use of red brick and red tiling had been coming into vogue for some time before the revival of the Queen Anne style was heard of. No doubt this was chiefly in the country; and no doubt it is the adoption of the same or a similar mode in the towns, and in London streets most notably of all, that really constitutes the revival in question, as an act of supposed archaeological impulse; but nevertheless it must not be disguised that the Queen Anne style of our metropolitan architects seems to have been in reality provoked by the red brick Gothic of country practice, and that consequently the succeeding style of the two may be best regarded as a further development of the preceding.

The application to such a mode of such a term as "Free Classic" becomes therefore a matter of some interest, and the discussion at the Architectural Association may be said to have fairly well illustrated this. Both Greek and Goth took part in the debate. To tell the truth, both took part equally against Queen Anne, and seemed to agree to flatter each other for the occasion in order to combine their forces; as if the Battle of the Styles were by mutual consent suspended and ignored until the new enemy—although claiming to be the friend of both sides—should be beaten off.

Perhaps the introduction of the phrase "Free Classic" was the very thing which, obviously intended to conciliate each of the old belligerents alike, occasioned on the contrary this enmity on the part of both. For what does "Free Classic" mean?

Let it be borne in mind that the architects who have recently introduced the Queen Anne Style are in fact a particular class of the great Gothic school of the day. This was clearly pointed out in the debate before us. It was not, in any possible sense of the term, the Classic party that brought up Queen Anne. Mr. NORMAN SHAW, Mr. BODLEY, Mr. STEVENSON, and their followers, were all, until a little time ago, earnest mediævalists. Indeed they are at heart

still the same. To call any of them a classicist—even as a convert—even as a pervert—would at this moment be quite absurd. They are not so much as eclectics; it is to be doubted whether any one of them has as yet devoted a single week of study to STUART and REVERT, or to CHAMBERS, in alternation with VIOLETT-LE-DUC. There are certain French picture books of miscellaneous architecture over which it is not unlikely they may all have been more or less contemplative; but to call these Classic works would be essentially misleading—they are Rococo. There are certain sketch books also which may no doubt have been attracting their attention, but what these have dealt with is not even legitimate Renaissance work, but merely the gleanings of the great field of the accidentally picturesque.

This "Free Classic," therefore, when fairly looked at, has very much the appearance of being nothing more than Rococo; and certainly, so far as free treatment goes, the authentic Rococo was permitted to kick up its heels with a freedom the most perfect that can be well imagined. But the advocates of the new mode are not the men who would consent to be identified with Rococo; they are on the contrary somewhat severe purists in their way, and hence the introduction of the term "Free Classic," even if they should be compelled to acknowledge that it means something very like Rococo after all. Rococo means little else than utter madness; but their madness shall have so much of method in it as to be no madness.

Whether the Queen Anne Style is Gothic or not may be said to be the real point of present controversy. Its adherents say no; but it may be doubted whether this denial, intended obviously to serve expediency and nothing more, has not already proved itself a mistake. Gothic reformers of a certain order, to speak plainly, were seeking for some new path of design. They were impelled so to do by no mere caprice, but by the natural operation of satiety. To them there seemed to be no new path within the Gothic field. They began therefore to search about the outskirts. They found something which, perhaps irreverently, but nevertheless expressively, may be called a Low Dutch way which amused them. To say that it impressed them with a sense of either elegance or dignity would be out of the question, but it was certainly well calculated to amuse their somewhat jaded taste for the picturesque. To Anglicise it, so to speak, they called it the style of the period of Queen Anne. If they had at the same time called it Free Gothic, it seems not unlikely that the mode might have seized upon the universal Gothic fancy of the day. But they call it Free Classic, and this assuredly provokes rebuke and repudiation.

To have called it Free Gothic would have simply implied—what is a fact—that the new school were tired of vernacular Gothic and sought for a more liberal form of the same idea by way of reasonable change. The incident of the mouldings and details being of Cinquecento character was not of much moment; the ensemble was unquestionably of the purely picturesque type, and this would have been quite enough for the occasion. Mediævalist purists would of course have sneered at the mongrel system; but the great body of architectural waiters upon providence would have been abundantly satisfied with the novelty provided for them, and Classicists would have only shrugged their shoulders once more.

But to call this bastard style—for such it confessedly is—by the gravely suggestive and even combative title of Free Classic is quite another affair. The minor details, it must be owned, are Classic—of that kind called Rococo; and it may be very fairly argued that the eventual tendency of the use of such details must be in the direction of true Classic taste, however remotely it may at first appear to be; but, as we have already said, such men as Mr. NORMAN SHAW and Mr. BODLEY are not to be mistaken for a moment as adherents of mere Rococo in principle, and at the same time they are not to be in any way imagined to be desirous of introducing, however remotely, the Classic, we will not say of the old Roman architect of the Flavian Amphitheatre, but of PALLADIO and VIGNOLA, or even of WREN and CHAMBERS, or SOANE and BARRY, or, for that matter, of BERNINI and BORROMINI. Those students of the art who yet find a pleasure in contemplating the profiles of Vitruvian entablatures or the proportions of Palladian façades, or who pause for a moment to contrast the dome of St. Paul's with the clock-tower of St. Stephen's, or the Bank of England with the design for the Law Courts, cannot be reasonably expected to take any pleasure in seeing the red brick buildings we have spoken of rearing one after another upon our leading thoroughfares their fanciful—they will say whimsical—frontispieces under the name of Free Classic. Free indeed they may be to desperation, but Classic they are not in any meaning whatever. Neither will the handful of our rising men whose taste has been formed in Parisian *ateliers* accept any the more the vagaries of the Queen Anne mode as being legitimately related to the neo-classic of modern France. The picturesqueness of so alighted a style, they will reasonably argue, is something wholly separate from the painstaking refinement of the French boulevards. There the designer has thoughtfully elaborated in stone to the last extremity of grace—every proportion, every conventional feature, every profile, every line of light or of shade, every accessory of sculpture or carving; whereas here the coarse brick wall, with or without the relief of a white spot or a white streak here and there at random, pretends to nothing more intellectual than a change of piquancy and a new sensation of repose. To call this Classic is to play idly upon words.

But whether Free Gothic in its origin or Free Classic in its tendency, what, as a practical question, is to become of the Queen Anne style? It is unquestionably laying hold upon the English taste. As regards furniture we say nothing, but we refer distinctly to architecture. The red brick style, we may therefore take leave to suggest, seems scarcely a thing to be relied upon. In the chief London streets it is hopeless to expect it, as at present used, to acquire a permanent popularity. Its employment in merely petty works amounts to nothing. But if its adherents care to prove their metal by extending its scope, it may have a career before it; and this is a good deal to say.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

As You Like It.

THIS play refers distinctly to a time prior to the succession of ANNE of BRITANNY, for her duchy was the last of the prince-doms added to the crown by her marriage with the KING of FRANCE. The time of the action, therefore, belongs to some period before the commencement of the sixteenth century, and the reign of LOUIS XI. (1461-1483), contemporary with that of our EDWARD IV., is probably as late as we can safely place it. Architecture has very little to do with the scenery of this comedy. Indeed, there is no necessity for its introduction at all. The first act gives—

1. An orchard near OLIVER's house.
2. A lawn before the DUKE's palace.
3. A room in the palace.

Now there is nothing to call for any buildings in 1 or 2, and the 3rd Scene may just as well be enacted on the lawn (2) as in a room.

In the 2nd Act we have for the 2nd Scene a room in the palace, occurring again in the 1st Scene of the 3rd Act. Both Scenes are extremely short (thirty-nine lines in all), and might be omitted without doing any violence to the conduct of the plot. So, too, the 3rd Scene of the 2nd Act may be the same as the first of the first. And as all the rest of the action is in the Forest of Arden, there is really no need for any architectural scenery in *As You Like It*.

The costume of 1461-1483 was not so extravagant in France as it was in England. In the Court of Duke FREDERICK we should see doublets and gowns of silk velvet and cloth of gold; rich embroideries in Venice gold, chiefly of the net and pine-apple pattern; deep trimmings of fur or velvet to collars, cuffs, and skirts of BERALD's and CHERIA's dresses, and various other things already noticed in the articles on the plays of Henry VI. and Richard III. But there are so many MSS. of this time, especially in the Imperial and National Libraries in Paris, and their illuminations reveal so many different styles of toilette, that the power of selection to a certain extent and within certain limits is in our hands, and our decision in these matters must therefore be more or less influenced by the *physique* of the actor or actress. For the more we know of the costume of the past the more satisfied we are that we can avoid, if we choose, those curiosities of dress where the ludicrous is predominant, and which, by arousing untimely laughter, interfere sadly with the dramatic action.

All's Well that Ends Well.

The Florentine war that happened nearest to Shakspeare's day fixes the time of the action about 1555. There was, it is true, no "Duke of AUSTRIA" then, the last Duke having died about a century before. With the exception of this allusion to Austria there is nothing of any kind in the text that is inconsistent with the date I have chosen. The scenery is wholly or almost wholly architectural, and is divided between Paris, Roussillon and Florence. There are five Acts, comprising twenty-three Scenes, very unequally divided, but in the first copy there is no scenic division. Following the course I have adopted in other comedies, I would venture to divide this play into six Acts with only four set-scenes, as thus:—

1. Roussillon: the interior of the hall, Acts I., III., and VI.
2. Paris: a room in the KING's Palace, Act II.
3. Florence: without the walls, Act IV.
4. Florence: a room in the widow's house, Act V.

Some of the scenes are so unimportant that there need be very little hesitation in omitting them. These are the 2nd of Act II., the 1st and 3rd of Act III., the 5th of Act IV., and the 1st and 2nd of Act V. The 2nd Scene of Act I. may without any inconsistency be removed so as to form the 1st Scene in Act II. The 3rd Act might be divided at the end of the 4th Scene, and the three remaining Scenes taken with the four Florentine Scenes of the 4th Act may be divided into two Acts (4 and 5)—an exterior and an interior at Florence.

Our first set-scene represents, in the words of the stage directions, "a room in the Countess's palace, Roussillon." As we are not called on to supply the scene of any historical event, and as no special CHATEAU or Countess is intended by our author, we are free to select any interior that will best suit the size and nature of the particular stage we may have to use, provided only that we remember that we are in that old province of France, now known as the Eastern

Pyrenees, and that the Mediæval architecture of the district was from first to last impressed—I will not say with a Romanesque but with a Roman character. To Perpignan or Carcassonne, Perigueux and Toulouse, we must look rather than to Pierrefonds, Coucy, or Croil if we desire authorities for restoring the Mediæval vaults and towers of the castle of the Count of ROUSSILLON. And I think its Mediæval character should be restored to BERTRAM's home, if only to give the strength of antiquity to the splendid aristocracy of the Countess, and some excuse for the almost blinding pride of her son.

The Paris Scene would be from the Louvre, as described in my notes on the historical plays of Henry V. and Henry VI.

The third Scene is outside the walls of Florence. A country road and fields form the foreground, whilst the gate, walls and town would be seen at the extreme back of the stage. Indeed, the distance represented outside the walls may be so great that there would be no necessity for any other architectural work except such as may easily be painted on a back-cloth, the line of the stage being disguised by broken banks, hedgerows, &c. The walls and gate should look almost new; for it was only twenty-nine years (1526) before the date above assigned to the action of this play that the fortifications were surveyed by the French and extensive reconstructions ordered, with the addition of those large round bastions, then a special feature *de l'art de la guerre*. Such portions of the old walls as were allowed to remain would belong to the first quarter of the fourteenth century. This fourteenth-century wall was once studded with towers, most of which were razed in 1526-7, but a few even yet remain. Above the walls we should see a host of towers, belonging to the palaces, monasteries, and churches of the City of the Lily, and chief among them those of the Duomo, the Palazzo Vecchio, and the Podesta.

A room in the poor hostelry of St. Francis, where the kind Florentine widow, who had seen better days, managed to live by the recommendations of pilgrims and palmers journeying to the shrine of "Saint Jacques le Grand," would scarcely be in the modern style of the Renaissance. The widow's house would probably be one of the many fourteenth-century houses with which Florence then abounded, and in its massive wooden ceilings, with their faded and broken patches of colour, its low shafted windows, its un moulded (or scarcely-moulded) arches, and its panelled walls, we might recognise the strong, almost solemn spirit of ARNOLFO, the city architect of 1290-1310.

A.D. 1555 introduces us to HENRY II. of France, to MARY of England, and to the Emperor CHARLES V. Of the King of France (HENRY II.), and what manner of man he was we may behold the *vraisemblance* in his portrait drawn at full length by CLOUTIER, and now in the museum of the Louvre. The engravings of PÉRISSE (1569) are replete with illustrations of the military costumes of France, from the plumed noble in embossed, chased or damascened armour, to the Swiss guard, with his halberd, the arquebuzier, the pikemen, and the Archers *de la garde du roi*. In the well-known portraits of QUEEN MARY and of MARY STUART (Society of Antiquaries, London) we have sufficient authority for the fashion of the dress of the Countess of ROUSSILLON, or the ladies of the Court of France. The colours most in vogue with the ladies of this period were crimson, violet, tan-colour, golden yellow, straw yellow, and grey; these were used with great skill, and much was done by the judicious employment of black and white for relief and emphasis. A severe costume combining only black and white with lines of gold embroidery was that adopted by the King at this time, and regarded as his livery. BERTRAM, Count of Roussillon, and the nobles of Southern and ultra Catholic France, would be far beyond their sovereign in richness and elaboration of apparel, wearing as an everyday costume crimson velvet or satin with embroideries and buttons of gold. In the text we find mention made of scarfs and plumes, slashed or snipt-taffata of saffron colour, "delicate fine hats and most courteous feathers," as parts of the soldiers' dress; there are, also, a few other things named, such as wearing caps of a past fashion, but nothing else which can be said to indicate any special form, colour, or fashion.

Love's Labour's Lost.

I have now reached the last of the Mediæval and Renaissance plays—a play which has the merit of brimming over with comedy, and of being less expensive to mount and easier to arrange in set-scenes for the modern stage than any other of its author's works. The scenery is laid in Navarre—a province of Spain lying on the French frontier, and once a kingdom.* But what appear at first sight to be historical references in the text have really no foundation in the history of Europe, so that there need be no hesitation in fixing the period of the action at the time the play was written, or about 1590. The only architecture which appears in the scenes occurs in an exterior view of a royal palace in a park, and the outside of ARMADO's house, also in a park, an arrangement, savouring much of France and England, but not of Spain—moreover Don ADRIANO DE ARMADO is often referred to not only as a Spaniard of some other State, such as Aragon or Castile, but as of an entirely different nationality from that of Navarre. There seems to me therefore no cause sufficient to stay us if we incline to fix either on France or England for the scenery and costume of *Love's Labour's Lost*. The parson, Sir NATHANIEL, HOLOFERNES who educates

* Can the "Ferdinand, King of Navarre" of the play have been confounded with Ferdinand of Aragon, who conquered all Navarre south of the Pyrenees in 1512?

"youth at the charge-house on the top of the mountain," DULL the constable, JACQUINETTE the country wench, and COSTARD the clown, are English from top to toe. Nor would the description of the manners of the KING and his lords by BOYET in the second Scene of the fifth Act, at all indicate the proud bearing and polished style of the grandees of Spain either under FERDINAND or PHILIP. If, however, we wish to preserve some Spanish colour in the scenery, the architecture should partake of the character of some distinctive building, like the Early Renaissance Alcazar at Toledo, or the Gothic houses at Segovia, Valencia, or Barcelona (see "Gothic Architecture in Spain," by Mr. G. E. STREET, R.A., &c.).

For the costume of the ladies, the nobles, and the KING, we cannot do better than refer to the National Portrait Gallery, the Louvre, and the *Recueil de Gaignières*, to. x. The great distinction between the Spaniard and the Frenchman was in the length of the trunk hose; the first wore them short, sometimes so much so that they scarcely showed beneath the skirt of the doublet; the French hose reached as low as the knee, and the skirt of the doublet was reduced to a mere band. (See notes on the Merchant of Venice, p. 198, ante.)

THE WATER COLOUR SOCIETIES.

THERE was a time when the elder Society of Painters in Water Colour, now more than octogenarian in antiquity, threatened premature decay from sheer stagnation. But during the last few years new life seems infused into this respectable body: some dozen fresh members bring fresh thoughts and manners, and the visitor to the gallery no longer knows beforehand exactly what will greet his eyes with accustomed monotony from the walls.

No less than four new names appear in the catalogue of the present exhibition. With the piquant facility and delicate thought of Mrs. PATERSON ALLINGHAM we are familiar in the department of book illustration from which so many of our figure painters now come. Her one contribution, *Little Customers*, charming in its quaint play on child-life, will scarcely take the world by storm, but promises well. The precise motive which induced the election of Mr. RADFORD we do not apprehend; his subject pictures are well-intentioned, nicely drawn, pretty in sentiment, *void tout*! Next comes Mr. BREWSTER, of Dudley Gallery repute; he has a great deal of inconvenient imagination from which to unburden himself, and seems to find the task beyond his executive power; yet that he can paint an artistic and poetical figure without over much muddling of colour or shakiness of drawing is evinced by *The Bailiff's Daughter of Islington*, gracefully conceived, delicately toned. *The Alchemist*, on the second screen, is clever, but Mr. Gow in the Institute has for years been doing this kind of thing much better. Last of the four new-comers is Mr. WALTER DUNCAN, and here we must give up any attempt to fathom the intentions of the Society in election matters. Possibly they have an affection for the name of the new member, and think it looks well in the catalogue. No doubt it is found occasionally desirable to consult other than artistic reasons for adding a contributor to the exhibitions.

But on the whole variety, and variety of an interesting kind, has been thrown on the walls of late. Let us take M. ALMA TADEMA for instance. Here is *The Tragedy of an Honest Wife*, a wholly exceptional piece of work in the gallery. The subject, divided into three pictorial compartments of unequal size, is taken from the stormy history of the Franks in the sixth century. CHILPERIC I., the worst of the four sons of CLOTHAIRE, jealous of his brother SIGEBERT, the best of the group, and a fine fellow as those times went, takes to wife GALSUINTE, the elder sister of SIGEBERT's grand spouse BRUNEHAUT, daughter of the King of the Spanish Visigoths. CHILPERIC has to buy his royal wife by the gift of five cities, and a vow on the Gospel to hold her as sole partner never to be repudiated, all the time being in love and thrall of the wretched woman FREDEGONDE. In the first circular picture is fair GALSUINTE, dressed in sallow robes, seated on a tiger skin, and holding a metal mirror; in the background, as out of a window, we see the scenes of her first triumph, when she assumes the Christian faith, and the people swear fealty to her at her crowning. The central composition gives a ghastly figure, half visible between leather curtains, lying on a bed, with agony still twitching in the hand that hangs over the edge; this is GALSUINTE, strangled by CHILPERIC at FREDEGONDE's instigation, for the QUEEN had to be removed to make way for her rival, and his oath kept CHILPERIC from letting her go back to her father, though she offered to give up her five cities and her treasures for leave to go. In the third compartment, before the martyred QUEEN in her sculptured effigy kneels a monk praying, the Christian clay lamp, such as are found by the hundred in the catacombs of Italy and France, burns in front of the tomb. Although M. TADEMA has written the story as recounted by S. GREGORY of Tours, on the centre of the solid frame into which the pictures are set, it is a little difficult to trace the exact subjects of his illustrations. In the first, the large seated figure of the girl might be FREDEGONDE meditating treachery, instead of the suffering GALSUINTE; in the last, the kneeling monk may be the chronicler, S. GREGORY—or anybody else. However, as regards the chief art points, these are minor objections. The force of the painter draws interest, he fascinates by originality; his sombre but wholly harmonious key of colour; his large realism of unfamiliar

objects of antiquarian detail; the very uncountness—for it is no less—of his arrangement; a half decorative mode of telling the story at different stages within one composition, as would be done in early mediæval art—all these points mark the irrepressible individuality which stamps the art of a painter, who has—even his enemies must acknowledge—all the technicalities of the craft at his command.

From Dan to Beersheba is as nothing compared to the distance between the mode of M. TADEMA and that of our old friend Mr. FREDERICK WALKER; yet the picture just described will probably divide public honour with a tiny gem by Mr. WALKER, *The Old Gate*, a study like and yet different to the large picture of the same name in the Academy some years back. This is better in composition; the children playing on the steps and in the road, the rustic who looks up reverentially at the sometime lady of the manor, combine in fine relations of grouping, and in colour there is none of the foxy glow which ran into the oil picture. In short, this moral is about a perfect example of Mr. WALKER's singularly subtle power of expression. Mr. PINWELL has a lustrous study of colour in an otherwise very faulty figure, which he calls *Sweet Melancholy*. The larger scale does not suit the more suggestive than accurate manner of the artist; and we shall hope to see him in healthier work: the simple group of two girls with *The Letter* is sensitively delicate. Mr. ROBERT MACBETH has also enlarged the borders of his frame. *The Winter's Walk* of a little girl, half-life size, with her pet dogs, carrying in her hand a bunch of early violets and primroses, presents a harmony of colour and a discord of line. The child's blown-about dress and her blue-stockinged legs are quite unnecessarily clumsy and angular; one really feels provoked with both for putting out a portrait picture of novel and pretty fancy and of excellent colour. Other subject painters are about as usual, where they are not absentees, as in the case of Mr. HOUGHTON. Mr. ALFRED FRIPP is, however, at exquisite pitch of poetic simplicity and tender study of light in the picture on the second screen, *Gleaners*. Mr. MARKS, A.R.A., contributes the grotesque sentiment in the portraits of two pair of birds, yeapt respectively *Darby and Joan* and *Edwin and Angelina*. Everybody knows how Mr. MARKS makes strange creatures on canvas or paper do everything but talk, so we need not enlarge on these telling titles. It is hard to pass Mr. WATSON, because he does what he intends to do, perhaps more entirely than anybody in the gallery; not very refined perhaps, always, but certainly always easily compelling pencil, brush and palette to express in perfect relation the story he has to tell. *A Gentleman of the Road* exemplifies this; look at the ease with which the gentlemanly highwayman turns round on the curved back of his black horse, that is drinking at the pool, to gaze at the body of a late comrade swinging on the distant gallows. Our eye follows his under the lowering clouds, over and still over the dark ridges of moorland to that ghastly sign silhouetted upon the band of saffron sky above the horizon. Within its compass nothing can be better. We were just about to forget HOFMALER CARL HAAS, who indeed shows excellent work of colour, and texture, and technical finish in fresh contribution from the East, numbered 59 and 226.

The landscapes are very good this year, with, of course, some conspicuous exceptions. Mr. HUNT is quite delightful as of yore in the delicate foliage of trees, the soft lights and softer shadows of the hills, and the procession of midday and evening clouds. No one goes beyond him in refined rendering of atmosphere. An artist we have watched with pleasure, Mr. MATHEW HALE, has left England for foreign scenes, and sends a group of faithful transcripts from Italy, redolent of light, and of the real jewel-like colour of that blessed land. The artist is true to the honest instincts that guided his English studies. He has painted what he has seen, not what an English public expects to be cooked up out of Italian scenery. Let us cite *A Land in which it seemed always Afternoon*, and *On the Lake of Orta*, and *South of the Alps*. Mr. GLENNIE sends capital bits this year from his summer rambles about Rome and among the Appennines.

Algiers has been a sort of "happy hunting ground" for our artists this last dull winter, and Mr. NORTH has painted in January a thicket of flowering shrubs and bright blossoms, and the strange Algerian women that group so well with them. Perhaps this (No. 32) is hardly a well-constructed picture, but it is very pleasant to look at. *The Vicarage Croft* has the old faults of "space to let;" it wants concentration, yet is true and simple. If Mr. NORTH would only observe more he would find that Nature with cloud shadow, or accident of living creature, bird or sheep or tiny child, will always bring your scene right if you only look out often enough.

Mr. POWELL has a large and fine drawing of *Lock Cornish*, but somehow we like his less ambitious work best. Mr. NEWTON has one contribution only, which contains certain mannered faults, but shows a grand range of snow-covered hills, our *English Alps*, rosy at eventide, and finely rendered in their massive strength and yet tenderness almost to evanescence—a combination especial to snow hills at sunset. Mr. DANBY is at his best, so is not particularly Mr. GOODWIN, or Mr. E. DUNCAN, or Mr. WHITTAKER, or Mr. BOYCE. As for Mr. BRIERLY, with his monstrous *Galleons of the Spanish Armada*, it were much to be wished he could be appointed admiral of some fleet in distant seas, that we might see no more of him in this inoffensive little picture gallery. And if he could persuade a few of the more ambitious veterans of the Gallery to accompany him, we should all be quite thankful. Not Mr. PALMER

however; he cannot be spared, though he only sends this year one of the dear old sylvan landscapes, glorious in sunset, and in all the juicy richness of golden browns and purples that dye nature to Mr. PALMER'S eyes. Yet one more drawing, and we pass to the Institute *Waiting for the Coach*, by Mr. E. K. JOHNSON, is brimful of delicate scene of spring lights, and the exquisite curves of branching trees.

We had hoped good things of the Institute this year, for the Winter Exhibition promised well, but disappointment awaits too sanguine expectation. Even Mr. LINTON, who always is original, is so very woolly in execution that he takes off the edge of his own thoughts. More is the pity. Among other good points nearly spoilt is a fine study of the head of the elder man in *An Appeal*. Mr. BROMLEY has gone among the American Indians, and painted cleverly the *Big Chief's Toilet*, as assisted by his youngest squaw—a clever picture. Mr. HERKOMER'S old women (237) are inimitable, and his *Tyroless Woodcutters in Walde* are true and characteristic too, but there seems no reason why he should have cut the top of the picture and the trees down in such an uncomfortable way. Pretty studies of girls by Mr. E. H. FAHEY; a capital, humorous scene among the *Irish Market Folk*, by W. SMALL; a single dashing figure of *A Trooper of the Scot's Greys*, by Miss THOMPSON, rather spoilt by a luridly coloured landscape; a little girl, *Mariannina*, from Mr. SKILL'S many Roman studies, and a pretty fancy portrait of a child (146), by Mr. C. GREEN, form a group of figure pictures worth notice. Mr. CATTERMOLLE has gone into imitation of Sir JOHN GILBERT and failed, and Mr. ROBERTS spoils good paper by following WILLIAM HUNT'S rustic subjects, with only Mr. ROBERTS' skill. Mr. JOPLING we decline to notice, except when he paints such harmless things as a *White Azalea* in a pot (136). Mr. STANILAND is, we think, a new and certainly a welcome comer, although his scene from emigrant life, during *The Last Day in Old England*, is scarcely above the clever work of the artists who enliven the leaves of the *Graphic* and other illustrated papers.

In landscape, the Institute Exhibition is below its average excellence, which at the best of times is not high. Indeed, this year the burden of representing landscape to much good purpose, rests with the elder Mr. HINE. In the minor department of flower painting, this Society has always beaten its rival, and two fresh members add to the already good list of flower painters—Mrs. COLEMAN-ANGELL and Miss MARIAN CHASE.

As a last word we may point to the exceptional figure-study by JOHN TENNIEL, *Lighting the Beacon*, wherein some wild fellow, Irish kern may be, lifts his tawny head and shows his strong limbs under the red flare of the beacon he has fired, while he seems to throw his whole vigour into one great yell for help, from the mouth open from ear to ear.

It is a notable fact how architectural subjects are falling into desuetude in the galleries. In the elder Society's rooms, Mr. READ is almost the only representative, and his highly-coloured and effective drawings are not of such accuracy or artistic excellence as to take high place. In the Institute, the skilled draughtsmanship of Mr. LOUIS HAGHE and the traditional excellencies of Mr. SKINNER PROUT do not seem to incite followers. There seems nothing shown now in exhibitions save dressed-up compositions by amateurs, or architects' show drawings. Why do not we oftener see on exhibition walls the studies made during holidays by architects? If the water-colour societies were to elect an architect every now and then they would do a very good thing for their exhibitions.

THE SUGGESTED UNION OF THE TWO METROPOLITAN ARCHITECTURAL SOCIETIES.

By E. C. ROBINS.

A FEW months since the late president of the junior Society invited myself and some half dozen others to meet at his chambers to discuss certain general propositions, which he had prepared, to test the propriety, or otherwise, of attempting a fusion of the two societies known as the Royal Institute of British Architects and the Architectural Association. Being unable to be present, I sent to Mr. Tarver my first impressions, and also wrote to Mr. Sharpe, of Lancaster, asking him to favour us with his judgment on the matter. Mr. Clarkson, as secretary of the Association, made a similar appeal to Mr. Sharpe—the result of which was that Mr. Sharpe addressed a letter to Mr. Clarkson, and, at the same time, enclosed a copy to me.

This letter I now forward to you for publication in its complete form, after due consultation with others, and with the permission of its author, in a letter received from Mr. Sharpe on April 15. It will be understood that this contribution of Mr. Sharpe's towards a fuller discussion of the subject, was written at an early stage of the negotiations, and is the first expression of opinion systematically thought out.

As other and more detailed suggestions are now in existence, it has been thought better that his views should be stated in his own words, so that they may be contrasted with other propositions which have been formed, both with and without a knowledge of what he has written.

It is obviously necessary to the realisation of Mr. Sharpe's scheme (as to every other scheme worthy of any attention), that a re-organisation

of the elder Institute must either precede or follow any such fusion of the two societies. Mr. Sharpe thinks that the proposed amalgamation should precede organic changes, and thus expresses himself to me in his last letter from the Pyrenees:—

"The first thing to be done, I am confident, is to unite the two bodies, and only to discuss the basis on which this is to be done, and the powers and limits of power that are to be assigned to each in the amalgamation. The united wisdom of the whole profession acting in a common interest will then be brought to bear on such questions of change, reform, and progress as may be proposed, with a much greater chance of unanimity than if discussed now."

I forbear giving any personal expression of opinion at the present stage, but I trust you will find space for well digested thoughts on the subject. Twenty years ago I supported Sir Digby Wyatt when a proposition was then made for the absorption of the Association by the Institute. At that time the Association was supposed to be on its last legs: the times have changed, and the two societies are now at the zenith of their strength, and each has enrolled nearly an equal number of members.

Neither society has need of the other to sustain itself or to continue its usefulness, but the proposition is this—may not both contribute to the prosperity of the profession as a whole, by uniting for that end, and for that end alone?

"Quarry Hill, Lancaster, February 17, 1875.

My dear Mr. Clarkson,—I entirely accept your views as expressed in your letter of the 4th inst., and I fully appreciate the difficulties in the way of an amalgamation of the Institute and the Association, and agree with you that any combination of the two which would interfere with the independence of the latter or change its representative character is not to be desired.

With this proviso, in what way can the two societies be made mutually useful to one another and to the profession generally? It is a matter to be studied, and if possible to be accomplished.

On the one hand we have in the Association activity, energy, zeal, self-help, a good working system, and an organisation which provides efficient and useful occupation for no less than 60 officials out of the 600 members of which it consists.

On the other hand we have in the Institute professional status, acquired honours, mature experience, abundant means, and a magnificent library, but little enthusiasm, and, considering that the Institute numbers upwards of 600 members, but can rarely muster more than 50 even on extraordinary occasions, an almost entire and perhaps not unnatural abstinence on the part of the great bulk of its members in any participation in the active work of the Institute.

To unite the professional experience, financial power, and honourable consideration of the one with the restless activity and working freedom of the other without damage to either, or rather to provide for the harmonious combination of these not antagonistic elements in such a manner that those of each society shall dovetail in with, and contribute to the enhancement of those of the other, and thus to present a union of upwards of 1,200 members as the representative Institute of the architectural profession, would be an achievement worth an effort, and one that would, I think, greatly redound to the credit of the profession, and to its consideration in public opinion.

The object, then, of the proposal being:—1. To promote harmonious working between two essentially different bodies of men engaged in the same pursuits; and

2. To facilitate the gradual ascent of the more painstaking, the more able, and the more deserving of the younger body from a state of pupillage and obscurity to a position of professional credit and honour. Every proposition and suggestion should be set aside which would offer the slightest impediment to the attainment of this result, and every means be adopted which would promote its realisation.

As regards initial letters, I would confine the use of them to the graduates, the Fellows being privileged to add F.I.A. to their names, and the members M.I.A.

As regards the reading of Papers, &c., I would leave matters entirely as they are, each body retaining its own arrangements, with the difference that all members of both bodies should be entitled to admission to the lectures and exhibitions of both.

Should you find anything in these very rough and incomplete ideas which may be useful in the preparation of any practical scheme having the same object in view, you are quite at liberty to make use of them as and when you think fit.—I am, my dear Mr. Clarkson, yours very truly,

(Signed) EDMUND SHARPE.

I am scarcely the fittest person to suggest by what machinery this union should be accomplished, for a more intimate knowledge of the charter of the Institute and of the details of the working of the Association than I possess is necessary for this purpose. But it appears to me that without any considerable sacrifice on either side, and with good will on both sides, it ought not to be a difficult matter.

Suppose, for example, starting from the present moment, and taking things as they are, we were to combine the two societies under the general denomination of the Architectural Institute, and, leaving to each its freedom of action and separate organisation, we were to provide that the elder society be regarded as comprising the "graduates" of the profession, and the younger society the "students" or "associates," the graduates being of two classes or orders (now fellows and associates), to be called hereafter "fellows" and "members," and the younger to be called either "students" or "associates;" the students to carry on under their own president and officers elected by themselves out of the joint body, their present excellent

working system of self instruction, their subscription remaining the same, but the value and numbers of their prizes and rewards being considerably augmented by an annual contribution from the funds of the Institute, and their means of self-instruction being greatly increased by throwing the library of the Institute entirely open, under proper conditions to the students, even to the extent of allowing books and drawings to be taken out for home study. It would have to be considered whether the additional prizes granted by the Institute should not be awarded by examiners appointed by their own body, or whether they should be elected out of that body, or out of the joint body by the junior society.

The mode of election or nomination of graduates, first to the lower and afterwards to the higher degrees (equivalent to those of Bachelor and Master of Arts in the Universities) wholly out of the body of the students, would also have to be considered: and whether by examination—which would appear to be desirable, if not essential—or otherwise; and if by examination, whether proficiency in different lines of knowledge or ability, and *not in all*, should not be taken as a sufficient qualification. On this head, I may remark that the establishment of the architectural examination appears to me to be not only a good precedent to follow, but the initiatory step towards the realisation of this more comprehensive project.

I would, in fact, make the junior part of the body the *Sphere of Work*, and the senior part the *Sphere of Honour*, to which it should become, in the natural course of things, the tendency and the ambition of the juniors to ascend.

THE BRITISH MUSEUM.

THE Reports that have been prepared by the Keepers of the Departments of the British Museum show that during the past year the additions to the national collections have been not only more numerous than those of late years, but that many of them are of much interest and value. Taking the departments in the order in which they are found in the Parliamentary paper we find that 37,761 volumes and pamphlets, besides 40,663 parts of volumes or periodicals have been added to the Printed Books Department. Among the acquisitions have been two of the scarce Shakesperian tracts formerly belonging to Sir William Tite, viz., "The Meeting of Gallants at an Ordinarie; or, Walkes in Powles," which contains an allusion to the "Comedy of Errors," and "Marceus Extaticus; or, Banke's Bay Horse in a Trance," describing the performing horse alluded to in "Love's Labours Lost." Many early English works of rarity have been purchased, including a copy of the extremely scarce first edition of Lydgate's translation of Boccaccio's "Fall of Princes," printed by Pynson in 1494. This volume was rescued from a tobaccoist's shop at Lamberhurst; portions had been cut out to wrap up tobacco and snuff. Another addition is Giles Fletcher's "Reward of the Faithfull;" London, 1623. This rare prose work, by the author of "Christe's Victorie," was recently described by Mr. Grosart from an imperfect copy which he believed to be unique. The author died in 1623, the year of the publication of the first folio edition of Shakespere. He denounces "idle pamphleters and loose poets, no better than the Priests of Venus, with the rabble of stage-players and balleters, and circumferaneous fiddlers and brokers, all which, if they were cleane taken out of the world, there would bee little misse of them." The preface contains a remarkable exculpatory allusion to Lord Bacon two years after his disgrace.

The collection of music has been augmented by the purchase of several hundred volumes, comprising the works of modern German, French, and Italian composers, many in full score. The works of Glinka, Titov, Varlamov, have been added to the Russian music. A great number of important treatises on the theory of the art have been acquired, and several valuable additions made to the class of early printed music.

To the Department of Maps and Topographical Drawings have been added an anonymous map of Germany and the surrounding countries engraved on copper, but with the lettering printed from type, published at Eichstätt in Bavaria in 1491. This is believed to be the surviving representative of an earlier map, now unknown, constructed by Cardinal Krebs, who died in 1464. The Prefect of the Seine has presented a photograph facsimile, in thirty-six sheets, of a beautiful map of Paris in 1540. Among the English additions are a collection of 600 water-colour drawings and engravings, illustrative of Suffolk, containing original drawings by H. Davy, Author of "Architectural Antiquities of Suffolk," and a Survey of Ports from Dover to Land's End, by Dummer and Wiltshaw, Commissioners of H.M.'s Navy, August 1698; in MS.

In the Department of Manuscripts a selection of dated documents has been made from the Winchelsea and Carew Charters, for the purpose of forming a chronological series. In the list of acquisitions are a treatise of Falconry, in Italian, with coloured illustrations; of the beginning of the fifteenth century; two volumes of cuttings of miniatures, initial letters, and borders, from a Latin missal written in England at the beginning of the fifteenth century (they are the remains of a manuscript of the highest value, as containing work of the best English art of the time); a Latin breviary, enriched with miniatures, borders, and ornamented initial letters of the greatest beauty, by Florentine miniaturists of the middle of the fifteenth century; an inventory of the reliques belonging to the Abbey of St. Bertin, in St. Omer, drawn up in the year 1465; on a long vellum roll; two rolls of instructions for painted windows for the church of the Grey Friars at Greenwich; of the time of Henry VII.; large collections for the genealogy of Yorkshire families, by the late P. W. Paver; a volume of transcripts of poems of John Lydgate, by John Stow, the historian, dated 1558; collections for the history of English monasteries and cathedrals; memoirs of English prelates, and other works, by the Rev. Mackenzie E. C. Walcott, Precentor of Chichester.

Among the new Oriental manuscripts are a thirteenth century copy of

the Koran on vellum; a Japanese novel with miniatures, and some Hindoo mythological drawings.

The acquisitions in the Department of Oriental Antiquities, including fragments, number about 3,200, the majority being the result of the excavations carried on in Mesopotamia by Mr. George Smith in 1873-4. The collection consisted of about 3,000 objects, principally fragments of terra cotta inscriptions, other portions of which were already in the Museum, to which many of the new fragments have been united.

A selection of Babylonian and Assyrian bricks have been glazed and placed above the Assyrian sculptures in the Nimroud Gallery, and the stone lintel of a door found on the site of the Palace of Sennacherib at Konyunjik with bas-relief representing a two handled vase and two gryphons has been fixed over the entrance to the Konyunjik Gallery.

A guide to the Egyptian monuments exhibited in the vestibule of the Egyptian Galleries has been published.

The Department of Greek and Roman Antiquities has been presented by Sir Patrick Colquhoun with a plaster cast of a relief in marble representing a trireme, and showing the arrangement of the rowers; it was found on the Acropolis of Athens. Dr. Schliemann has given a rude bronze figure; Mr. C. T. Newton a bust of a female figure in terra cotta, remarkable as an example of the application of an enamelled glaze to this material; and the Rev. H. F. Tozer two fragments of pottery found in Santorin, the ancient Thera, on a site supposed to be that of pre-historic dwellings.

The Trustees of the Museum have purchased, besides other sculpture, twenty-one statuettes and a mask in terra cotta, found in Greek tombs at Tanagra. These figures are remarkable for their almost perfect preservation, and for the delicacy and refinement of the modelling. They are probably productions of the latter Athenian school of art. Also a marble statuette of a draped female figure found at Arnitha in Rhodes, and which is an interesting example of the later school of Greek sculpture. Many examples of Greek pottery have been bought.

The explorations of Mr. Wood at Ephesus have produced for the Museum examples of sculpture, architecture, inscriptions, and other antiquities, which have been frequently described. On these explorations Mr. Newton, the keeper of the department, reports as follows:—"Mr. Wood has completed the exploration of the site of the Temple of Diana, and the remainder of the marbles discovered by him have been received. In demolishing the walls of Byzantine masonry built against the *cella* walls of the Temple, a number of fragments of architecture and sculpture from the Temple were found. In some places it was discovered that the foundations of this Byzantine masonry rested on ancient pavement, the level of which was intermediate between the levels of the two pavements previously discovered, i.e., nearly four feet above the lowest pavement previously discovered, and about three feet six inches below the uppermost step of the latest Temple. On the south side of the site were discovered the remains of a Doric building, which is probably of the same period as the latest Temple. The excavations were extended on the West without yielding any remains of the Temple; on the east was found an *akroterion* from the roof of the Temple. In the exploration of the *cella* a number of archaic fragments of sculpture were found. In several places the diggings were carried down to the original foundations of the earliest Temple, below which was a layer of charcoal distinctly visible. The presence of this layer confirms the statements of Pliny ('Nat. Hist.' xxxvi., 21), and 'Diogenes Laertius' (ii., 8, 19), that the foundations of the Temple were laid on a bed of charcoal and fleeces of wool, an expedient which was probably adopted to prevent the damp rising. After the site of the Temple and the margin of soil immediately adjoining it had been completely explored, the excavations were brought to a close in March 1874."

The Department of British and Mediæval Antiquities has been enriched by some Antiquities discovered in an Anglo-Saxon cemetery at Haslingfield, Cambridgeshire; two iron weapons found in Kent; an Anglo-Saxon ornament found at Iffley, Oxon; the head of a king, carved in ivory, of the fourteenth century, probably of English workmanship; from the Meyrick Collection; (presented by Mr. William Burges); forty-three tiles from the site of Chertsey Abbey, Surrey; an ewer in pottery of the thirteenth century, in the form of a knight on horseback; a stoneware figure of Meleager made by John Dwight at Fulham, about 1672; and an earthenware *tyg* dated 1640; three specimens of English earthenware; one of them, a candlestick dated 1651; another, with inscription relating to the contested election for Oxfordshire in 1754-55. Among the miscellaneous antiquities are a very extensive collection of watches, illustrating the various phases through which the art of watchmaking has passed, collected by the late Sir Charles Fellows. It consists of 87 specimens, varying in date from 1520 to 1720; two of them are stated to have belonged to Oliver Cromwell; a cross of the sixteenth century, such as were worn by knights of Malta; seven painted tiles, from Valencia.

During 1874 there have been added to the Collection of Coins, 902 Greek; 258 Roman; 141 Mediæval and Modern; 41 English, 183 Oriental, in all 1525 specimens. Some of these are exceedingly rare. It may be noted here that the total number of visitors to the Coin Room during the year was only 1674, a reduction of 50 from the previous year.

The Report by the Keeper of the Department of Prints and Drawings states that considerable progress has been made with the third volume of the "Printed Catalogue of Satirical Prints and Drawings; all the works of Hogarth have been described, and the allusions in which they abound exhaustively explained; in this respect the Catalogue will probably leave nothing to be done, and will represent Hogarth completely. The Catalogue of other works is practically finished up to the year 1743, including many hundreds of entries; and numerous later examples have also been described. This volume will probably be ready for publication about the middle of the current year. In consequence of the large number of additional titles required to be written for prints which had previously escaped notice, or been only recently acquired, the publication of the first volume of the "Printed Catalogue of Prints and Drawings," illustrating events in English history, has been delayed beyond the time originally anticipated; but the whole of the MS. is now fairly in the hands of the printer, and it will be issued in a few months. The prints after Italian masters have

been divided to correspond with Lanzi's classification of local schools. The specimens of English Mezzotint engravers have been arranged in chronological order, and the prints after Sir Joshua Reynolds have been rearranged.

The acquisitions of the year have amounted to the large number of 11,381, of which 2,381 were presented. Among the latter are a collection of 1,817 drawings of ancient architecture, furniture, iron work, stained glass and tiles, together with seventeen small sketch-books, by the late William Twopeny; accompanied by a catalogue and an alphabetical index, presented by Mr. Edward Twopeny; two large drawings by James Barry, of subjects from his large pictures in the rooms of the Society of Arts; 38 unpublished etchings by Sir Henry Cole, K.C.B.; 47 sketches by William Blake; and 159 sketches illustrating the antiquities of Etruria by the late Mr. Ainsley. The Trustees have purchased many important drawings, etchings, and engravings, out of the collection formed by Hugh Howard at the commencement of the last century.

Of the Italian School there are 1,670 new examples, including a pen drawing of a profile head of an old man, highly finished in sepia, by Leonardo da Vinci, 38 designs for plate and furniture by Giulio Romano, four rare examples of Marc Antonio, and an early Florentine print, probably by Leonardo da Vinci, representing a dragon seizing a lion; this is not described in any book of reference, or known to any modern collector, but there exists a drawing of the same subject, by Leonardo, in the Uffizi Gallery, and there is also a reversed copy by Zoan Andrea, which is described by Bartsch. There are 596 examples of the German school, among them a design for the hilt and sheath of a dagger, by Hans Holbein, made in Indian ink, with a fine brush, in his admirable and complete mode of execution. It is most elaborately enriched with arabesques of foliage, satyrs, male and female figures, &c., and is of exquisite draughtsmanship and superb design.

The Dutch and Flemish drawings include a study by Rembrandt for his etched portrait of Cornelius Sylvius, made in bistre, with a reed pen; freely and roughly treated; a beautifully finished head, in three-quarters view, of a woman wearing a high raised coif and pinner, by Lucas van Leyden, executed in sepia with a brush, lightly shaded, and perfectly modelled; a study by Vandyke for the horse, in his well-known equestrian portrait of Charles I., now in the Louvre.

Among the English drawings are 479 water-colours, by John Wykeham Archer, of remains of ancient buildings in London and its vicinity. There is also an extremely interesting woodcut in three blocks, measuring 19 inches by 19½ inches, and representing *The Ark Royal*, the largest vessel in Queen Elizabeth's navy, and the flag-ship of Lord Howard of Effingham in the battles with the Armada. It is represented as rigged with four masts, and carrying the admiral's standard at her gangway, thus continuing the custom, which obtained in ancient as well as mediæval times, of exhibiting the armorials of the warriors on board a vessel, on shields suspended at her sides; the Royal Standard flies at the mainmast head; the Tudor rose is on a flag at the summit of the mizenmast, and a St. George's cross appears at the foremast truck. This woodcut, if it is of English origin, is one of the oldest works of the kind executed in this country.

When the extreme interest of the prints and drawings in the Museum is considered, it must be regretted that the place which contains them is so effectually concealed and guarded from the public that very few people have had the privilege of glancing at the contents of the portfolios. During the year 1874 there have been 461,000 visitors to the general collections; the number of readers was 104,727, while the "visits" to the Print Rooms for "study or research" were no more than 2,984, that is scarcely one-half of the number of "visits" to the Departments of Natural History, which, as now arranged, are the least complete of all in the Museum.

HYDRAULIC CALCULATIONS.*

MR. NEVILLE'S book has been for many years under the scrutiny of engineers, and its merits from the first led to their adopting it in calculations referring to waterworks. It is still of all English books on the subject the one nearest to completion, and it has most of the qualities of a serviceable manual. From the good arrangement of the matter, the clear explanations, the abundance of formulae, the carefully calculated tables, and, above all, the thorough acquaintance with both theory and construction, which is displayed from first to last, the book will be found to be an acquisition to the student of science, as well as to those who are concerned practically with hydraulics.

Hydraulics is becoming more important as a science every year because its relation to the well-being of communities is now better understood. Yet it must be owned that there is still much to do before it can be placed on the same footing as some other sciences. When we pass from the study even of mechanics to hydraulics, it seems as if we were leaving a branch of knowledge where nearly everything is determined for one in which it is difficult to discover a proposition on which two authorities will be found to coincide. The calculation of the velocity of a river, or the quantity of water that passed through it in a stated time, would most likely give a dozen different results if that number of experts were employed. Even in artificial channels, where there would appear to be more simplicity, there is the same uncertainty. To take one instance. A few years since Mr. Bateman, in giving evidence before a Parliamentary Committee, said that the 4-foot pipes which he laid down in Glasgow were originally calculated by him to deliver 20,000,000 gallons per day, with an inclination of 5 feet per mile, but it was found that they delivered 26,000,000 gallons, and with an inclination of no more than 3½ feet per mile! One of the ways he accounted for the discrepancy was by saying that 4-foot pipes were too large to allow of the application of the customary formula. This, fortunately, was an error on the safe side, but it has too often happened of late years that the conduits for water supply and sewage works have been

constructed of insufficient capacity, and had to be enlarged at a vast outlay.

The history of the Metropolitan Main Drainage affords another instance of the uncertainty of hydraulic calculations. In 1856, Sir Benjamin Hall, at that time First Commissioner of Works, employed Captain Douglas Galton, Mr. James Simpson, and Mr. Blackwell to report upon the plans for the drainage of the metropolis, prepared by the engineer of the Metropolitan Board of Works. The referees had an elaborate series of gaugings of the existing waterways taken under their direction; but on examination by Messrs. Bidder, Hawksley, and Bazalgette, the tables, it was alleged, were found to disclose inexplicable discrepancies, and the estimate of the quantity of water that flowed over the weirs involved errors varying from 10 to 38 per cent. of the supposed quantity. But if we understand Mr. Neville rightly, the calculations of both parties were based on a wrong principle.

He says that—"Most of the discussions which then arose would have been obviated if the calculators or engineers had taken into account the different circumstances attendant on the effect of the form of a weir and its approaches, instead of applying generally a formula suited to a particular case, namely a thin crest, a small notch, and a large body of water immediately above it, and applied a correct formula for including the effects of the velocity of approach."

In such cases as these we see no more than discrepancies in figures; but what they represent in the hard cash drawn from ratepayers no one has taken the trouble to discover. But if we turn to Ireland, where Mr. Neville continues to be engaged, we can get a slight notion of what comes from engineers being entrusted with hydraulic works who have not an adequate knowledge of hydraulic principles. Last Session there was some talk in Parliament about the great loss that many people had to endure through the inundations of the River Shannon, and if we are not wrong in our recollection, a sum of money was voted towards carrying out remedial works. Next to the Thames probably no river has cost the country so much as the Shannon. The works at one time were of such magnitude that they were the object of a special Government department, with commissioners and other officials. Yet much of what was then constructed is so injurious to the river and the land along the banks as to involve further outlay which otherwise might not have been necessary.

"In November, 1849," says Mr. Neville, "I drew the attention of the Institution of Civil Engineers of Ireland to the misapplication of long solid stone weirs on the Shannon, for navigation and drainage purposes. The 'Arterial Drainage Commissioner' on the Board of Works, who was present, pooh-poohed the inferences, but the failure of those works—rather the injury they do—has since become patent to all; and after an expenditure of about 600,000*l.*, an Act has been passed for the outlay of another 300,000*l.*, a moiety of which the riparian proprietors are again expected to contribute. This amount is proposed to be now expended in order to remedy the misapplication of a large portion of the first sum, 300,000*l.* of which had to be paid by the proprietors of the adjacent counties without having had any control over its expenditure."

There is one table referring to Irish work in Mr. Neville's book which gives some strange examples of how widely different the cost of engineering work may be now and then when compared with the engineer's estimates. Nearly thirty years since the Government undertook to improve the land in Ireland by carrying out a system of arterial drainage on a scale so comprehensive as to embrace nearly the entire of the kingdom, or, rather, so much as the proprietors might desire to have undertaken. Several Acts of Parliament were passed, sufficient funds were assigned, the country was divided into a series of districts, according to the catchment basins of the streams, and a large number of engineers were employed to examine them and to report upon the works that were necessary; the Commissioners of Public Works being entrusted with the superintendence. As the districts were limited in size, it might be supposed that any one with a fair knowledge of drainage work ought to have been able to estimate how much it was likely to cost to deepen or straighten a few streams and to construct some small bridges of rough masonry, for we suppose such things must have constituted the entire of the work. The following cases will serve to give some idea of how far this was realised:—

District	Original Estimate Including Interest	Total Cost Exclusive of Interest	Average Cost per Acre	Estimated Cost per Acre
Kilbeggan	£ 8,550 15 0	£ 24,055 5 9	£ 4 0 7	£ 1 9 8
Broena	40,085 1 1	71,968 9 1	4 11 6	2 11 0
Dunkellin	16,943 16 11	29,602 14 0	3 14 9	2 2 9
Cappagh	8,133 3 8	13,415 6 6	3 14 1	2 4 11
Inny	29,191 4 5	44,471 4 4	3 0 2	1 19 6
Lough Gara	10,719 11 8	18,380 2 6	4 4 0	2 9 0

It is not easy to explain these differences, unless by supposing that the authors of the estimates were unable to calculate what capacity or fall it was requisite to give to a watercourse, and that in the progress of the works it was necessary to make considerable deviations from the original plan. One feature in these works, we believe, was that they were carried out by workmen under the supervision of Government overseers without the intervention of contractors. If there was any loss, it must have fallen, therefore, upon the country, for we cannot suppose that the proprietors who assented to the undertakings on the faith of the original estimates were compelled to bear the additional and unanticipated outlay. It is quite possible that such extraordinary differences may be easily accounted for, and that there may have been unexpected contingencies in each case, but the question may be suggested as to what would follow if, in the erection of some work of architecture, a builder had to be paid 72,000*l.* on an architect's estimate of 40,000*l.*, or 24,000*l.* on one of 8,800*l.*?

The preceding examples indicate the difficulty of dealing with hydraulic works even of a simple kind. The problem becomes more complicated

* Hydraulic Tables, Co-efficients and Formulae. By John Neville, C.E., M.R.I.A. Third edition, with additions. Lockwood & Co.

when it refers to the water supply of towns with many inhabitants. As yet a clear statement of the cost of such works of this kind as have been completed is not available, although it is possible to discover what the outlay may have been in some few cases. The following epitome from Mr. Neville's book will show how various has been the cost, and hence that extreme caution should be observed in the application of general prices:—

"The estimated cost of the water supply for Dublin from the Vartny, was 300,000*l.* for 12,000,000 gallons. It is said to have cost 1*l.* 17*s.* 6*d.* a head. Glasgow, 3*l.*; Manchester, 2*l.* 18*s.*; and Birmingham, 3*l.* The annual cost of filtering 1,000,000 gallons daily, capitalised, is put down at 1,250*l.* by Sir John Hawkshaw in his report on the Dublin supply. This would be 62*l.* 10*s.* yearly. It varies from 40*l.* to 120*l.* under different circumstances. The works of construction, and the first cost of the filters may be taken at about 2,000*l.* for each 1,000,000 gallons to be filtered daily.

The actual cost of all works for house service varies very much in different towns, and with the quantities supplied, from a general average of 1*d.* per house per week to 2*d.*; and from an annual rate of 9*d.* in the pound to 1*s.* 6*d.*, and higher. The supply to the suburbs of Dublin is given at a charge of about 3½*d.* for each 1,000 gallons. The cost of raising and supplying 1,000 gallons from a height of 135 feet in Nottingham is said to be 3*d.*, and the charge for house service to vary from 5*s.* to 60*s.* annually. In Rugby the average cost per house is 19*s.* per year, 4½*d.* per week, or an annual charge of 3*s.* 3*d.* per year, or ¾*d.* per week per head of the population, and for a bare supply of 13 gallons. In Croydon, for a supply of only 14 gallons per head, the cost of works varied from 1½*d.* to 2½*d.* per house per week. The cost of house apparatus for private supply from street mains, as averaged by the Board of Health, for first-rate houses, is 3*l.* 13*s.* 2*d.*; second-rate houses, 2*l.* 18*s.* 6*d.*; third-rate, 2*l.* 8*s.* 3*d.*; fourth-rate and cottages, 17*s.* 6*d.*; average cost for houses and cottages, 2*l.* 8*s.* 1*d.* The cost of pumping varies with circumstances; we believe that pumping engines cannot be put down at less than from 60*l.* to 100*l.* per horse power, dependent on the size of the engine, although the Board of Health adopted a standard of 50*l.* per horse power. The total estimated cost of engines, including pumps, engine-houses and wells, &c., for raising the London sewage, is 70*l.* per horse power, and the annual cost 20*l.* per horse power."

THE BELFAST ARCHITECTURAL ASSOCIATION.

THE final meeting of the session of the Belfast Architectural Association was held on Monday evening, when the chair was taken by Sir Charles Lanyon, F.R.I.B.A., R.H.A.

The report was read by the Hon. Sec., Mr. R. M. Young. It stated that the meetings were numerous attended, and had not been unsuccessful in interesting both the members and the general public.

The following prizes were awarded:—

Class I.—For the best copy of a good architectural drawing—1st, Thomas M'C. Johnston; 2nd, Thomas Duff; 3rd, R. J. D. Clarke.

Class II.—For the best series of sketches exhibited at the evening meetings for design—1st, J. W. Lockwood; 2nd, Thomas M'C. Johnston; highly commended, William J. Gilliland.

Class III.—For the best architectural drawing or design at the winter exhibition of the Government School of Art, R. J. D. Clarke (design for wrought-iron 'Grille').

Class IV.—For the best set of measured drawings of a building, twelve works, James J. Phillips.

Class V.—For the best sketch drawing of any building—1st, James J. Phillips; 2nd, Thomas M'C. Johnston.

Class VI.—For a design in colour, J. W. Lockwood (design for shop front).

Class VII.—For the best drawing, not otherwise premiated, J. W. Lockwood (pen-and-ink sketch of Tour St. Romaine, Rouen), and T. Duff.

Class VIII.—For the best Paper submitted during the session at the evening classes for design—1st, W. J. Gilliland.

Sir C. Lanyon, in addressing the members at the close of the evening, said:—It has again given me very great pleasure to preside at your annual meeting, and again to meet those younger members of the profession who are now preparing for the battle of life in that profession of which I was so long a practical member; and upon which I still look with much interest. This meeting recalls many an association connected with my young days, and the ardour and anxieties connected with the pursuit of knowledge in one of the most pleasing professions or business that any young man can follow. I must congratulate your Association on the improvement which I observe in the exhibition of drawings hung around these walls. They decidedly show that this Association has been successful in stimulating the taste and genius of many of its young members, and I wish and sincerely hope that this year's success may tend, not only to stimulate those who have carried away the prizes in this competition, but that it may lead those who have been unsuccessful to an honourable determination to vie with their fellow-students in the future. To this latter class I would say, do not be disheartened. Remember the advice I took the liberty of giving you last year—not in my own words, but in those of a great master of his art, viz.:—"That a great part of a man's life must be spent in collecting materials for the essence of genius; that nothing can come of nothing; and that he who has laid up no materials can produce no combinations." I fully concur in the observations made in the report of the examiners, "that it is gratifying to notice such a highly creditable show of works, many of them being of real artistic excellence;" and I also concur in the remarks made by them on some of the drawings specially referred to. If I might, however, venture to make an observation on any want there may be in the class of work exhibited, I must say that I should have been better pleased to have seen more sketches from ruins or buildings of well-known character. These form the materials to which I before referred, which students should be constantly collecting, from which to produce combinations in design.

ILLUSTRATIONS.

GROUP OF HOUSES, BERKELEY STREET, PORTMAN SQUARE.

THE lease of Montagu House having expired, and the house and garden fallen into Lord PORTMAN's possession, he determined to appropriate it as the future residence of his eldest son, Mr. WILLIAM PORTMAN, M.P. for Dorsetshire, and the necessary alterations and additions, together with the erection of a new group of private stables and coach-houses, were entrusted to the charge of Mr. THOS. H. WYATT. As it was determined to pull down an inferior row of houses between Berkeley Street and the gardens of Montagu House, and to widen the street, Mr. WYATT was requested to design a new block, to consist of five first-class residences, and with a view to exercise control over those portions of the houses looking over the gardens of Montagu House, he was asked to take charge of the letting of these sites subject to certain conditions. They were soon taken, and by clients of the following gentlemen, Mr. WILKINSON (who built two), Mr. HESKETH, Mr. EDIS, and Mr. WYATT, the internal arrangements being left as far as practicable to the wants of the various tenants. The general features of the elevations were adhered to by all, but in the centre house, certain variations in the treatment of the gable and of the porch were introduced.

These houses are built of red brick, the cornices, string courses, and copings being of terra cotta, manufactured by Mr. BLANCHARD.

The stables and coach-houses are built on the northern side of the garden.

We have also given an elevation of the central house of the group. The architects, Mr. R. HESKETH and Mr. ROBERT W. EDIS, F.S.A., were permitted to vary the general design, and were thus enabled to make a considerable difference in various features, notably in the gable and porch, into which, through the courtesy of Mr. WYATT, they were able to throw a distinctive character more in accordance with the general design of the internal portions of the house. The style adopted throughout is that which it has of late been the fashion to call "Queen Anne," but which in reality nothing whatever to do with that good Queen of revered memory, except that the modern system of stone imitation, rococo, plaster ornament and cement decoration of flimsy and meretricious character has been carefully avoided, and fair brick mouldings and good red brickwork substituted in their place, while instead of hidden or false roofs, the general construction of the building has been shown, and the large gabled roof made useful for attics, &c. The so-called "Queen Anne" work offers many opportunities of a picturesque street front, without sacrificing internal space and continuing the many absurdities of narrow windows and endless shafting, and "many complexities and perplexities" of design so much regarded in some of our more recent Gothic façades, while the use of good coloured brickwork seems to offer many advantages over light-coloured stone, and its eventual blackness, combined with its too often unfortunate utterly un-English character of design, so much affected by some of our leading Gothic architects. A mere line elevation cannot of course show the shadow and colour obtained by the use of red brickwork and good brick mouldings, but the reality and charm of the style may be seen in many quaint old buildings in the suburbs of London, which the ruthless hand of the speculative builder has not yet destroyed.

Internally the house, of which we give an illustration, has been carefully planned to meet the requirements of a London house, but on a somewhat different arrangement. The hall is made a distinctive feature; the staircase, which is of oak, is hidden from the entrance, and the general details have been carefully worked out in harmony with the general design; the mantelpieces and the internal decoration have all been carefully designed by Mr. EDIS, and every care has been taken to render the inside as convenient and artistic as possible, while at the same time modern requirements and modern improvements have been honestly taken into consideration.

The whole of the works have been well carried out by Messrs. T. H. ADAMSON, the builders, of Ealing, under the immediate superintendence of Mr. HESKETH and Mr. EDIS, who acted herein as joint architects.

ASSOCIATION OF MUNICIPAL ENGINEERS.

THE third meeting of the members of the home counties district will be held at Reading, Berks., on May 7 next, when the recently executed drainage and sewerage works, the water works, and the factory of Messrs. Hantley & Palmer will be visited. Among the subjects to be afterwards considered are—

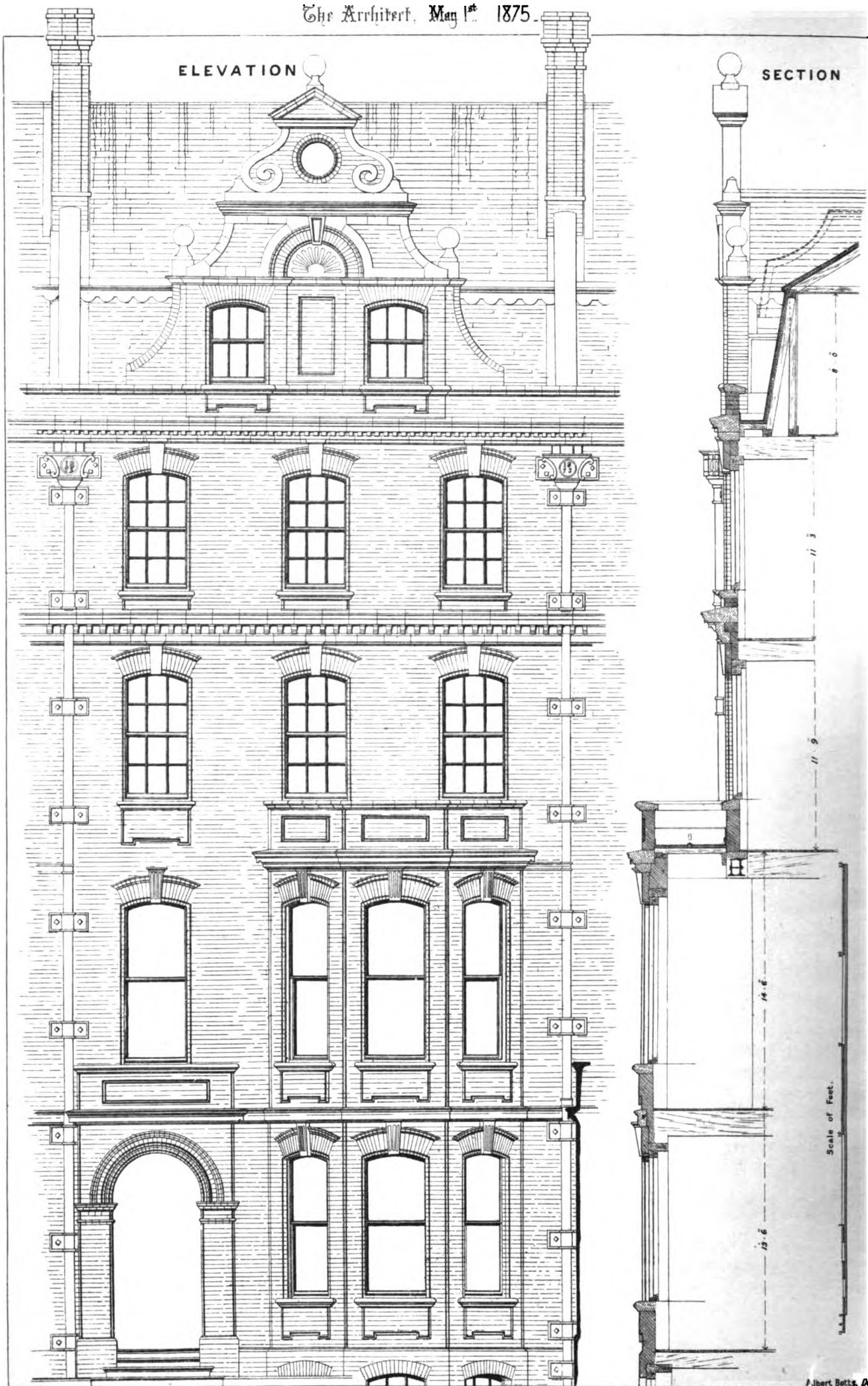
- (1.) The report of the committee for the annual meeting at Manchester.
- (2.) The advisability of requesting the members of Parliament for the district to further the proposed amendments of the Association to the Public Health Bill, 1875.

Mr. A. W. Parry will read a Paper on the "Works visited in Reading," and E. B. Ellice-Clark one on "The Average Meter System for determining the consumption of Gas in Public Streets." It is especially desirable that members should attend this meeting to be conversant with the arrangements for the annual meeting at Manchester.

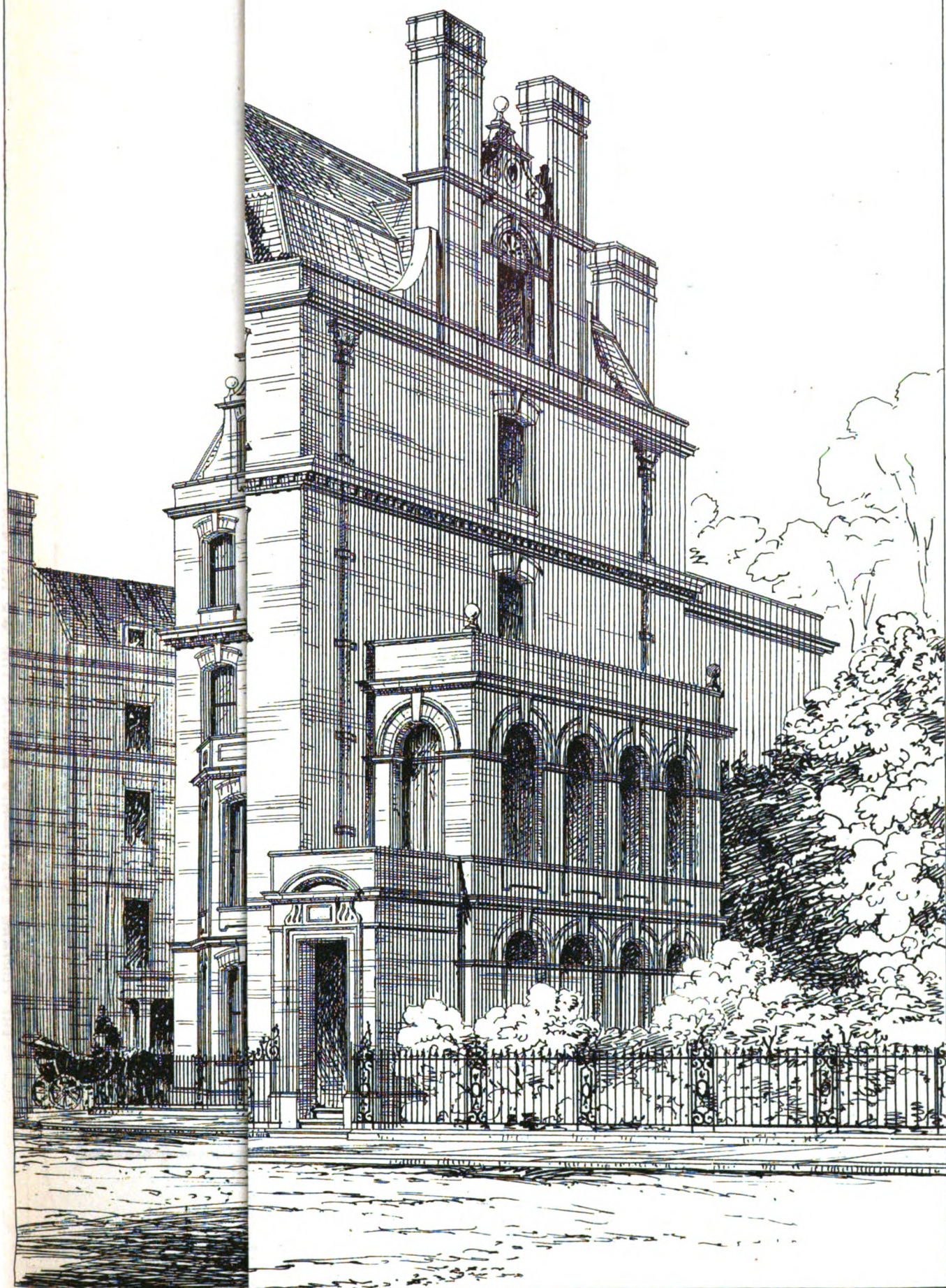


ELEVATION

SECTION



"THE PORTMAN ESTATE"—NEW MANSION FOR SIR BALDWIN LEIGHTON, BART. NO. 2, UPPER BERKELEY ST.
T. H. WYATT, ARCHITECT.

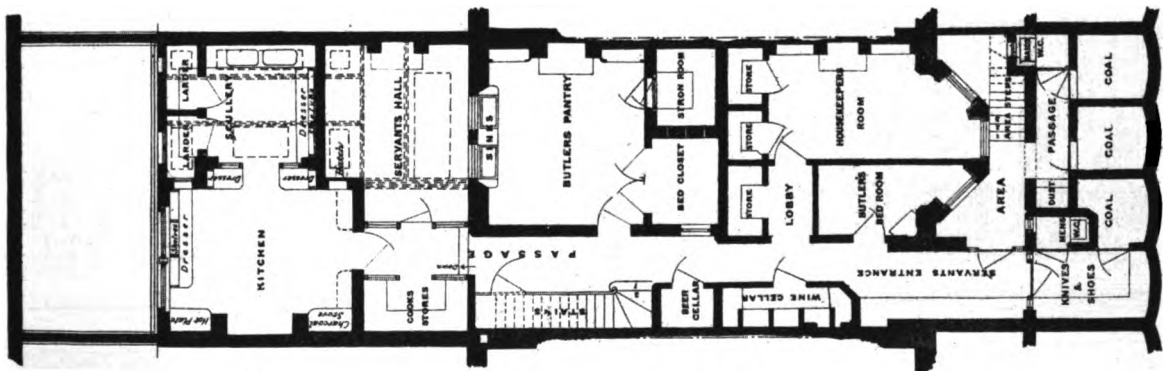


Printed by W.W. Spangue & Co. London, E.C.

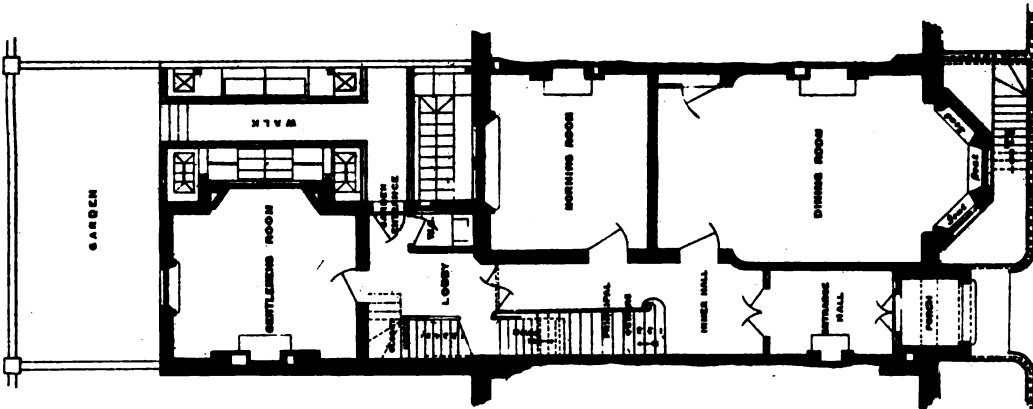
INGING TO THE VISCOUNT PORTMAN.

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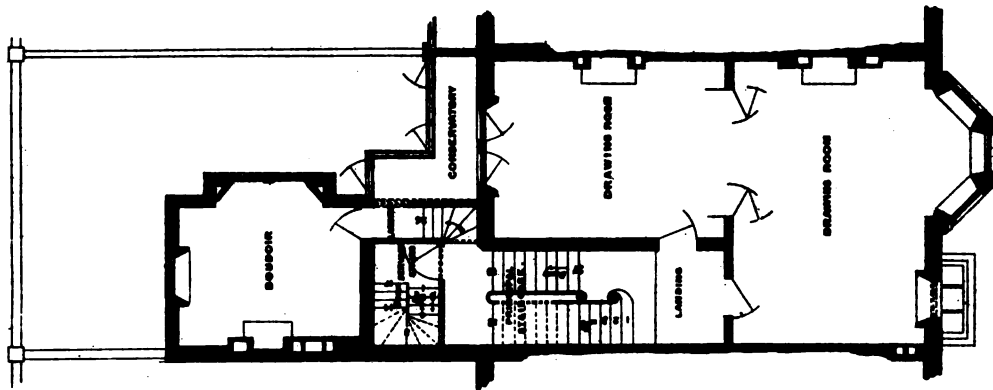




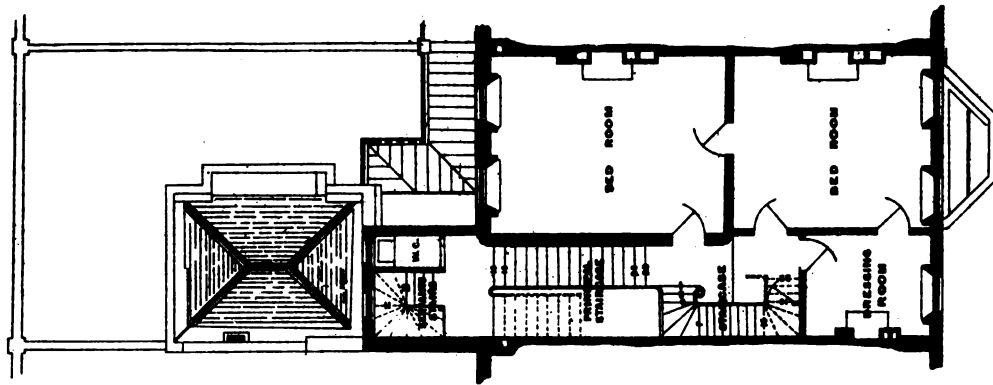
BASEMENT.



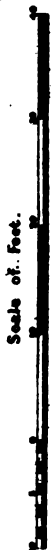
GROUND FLOOR PLAN.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

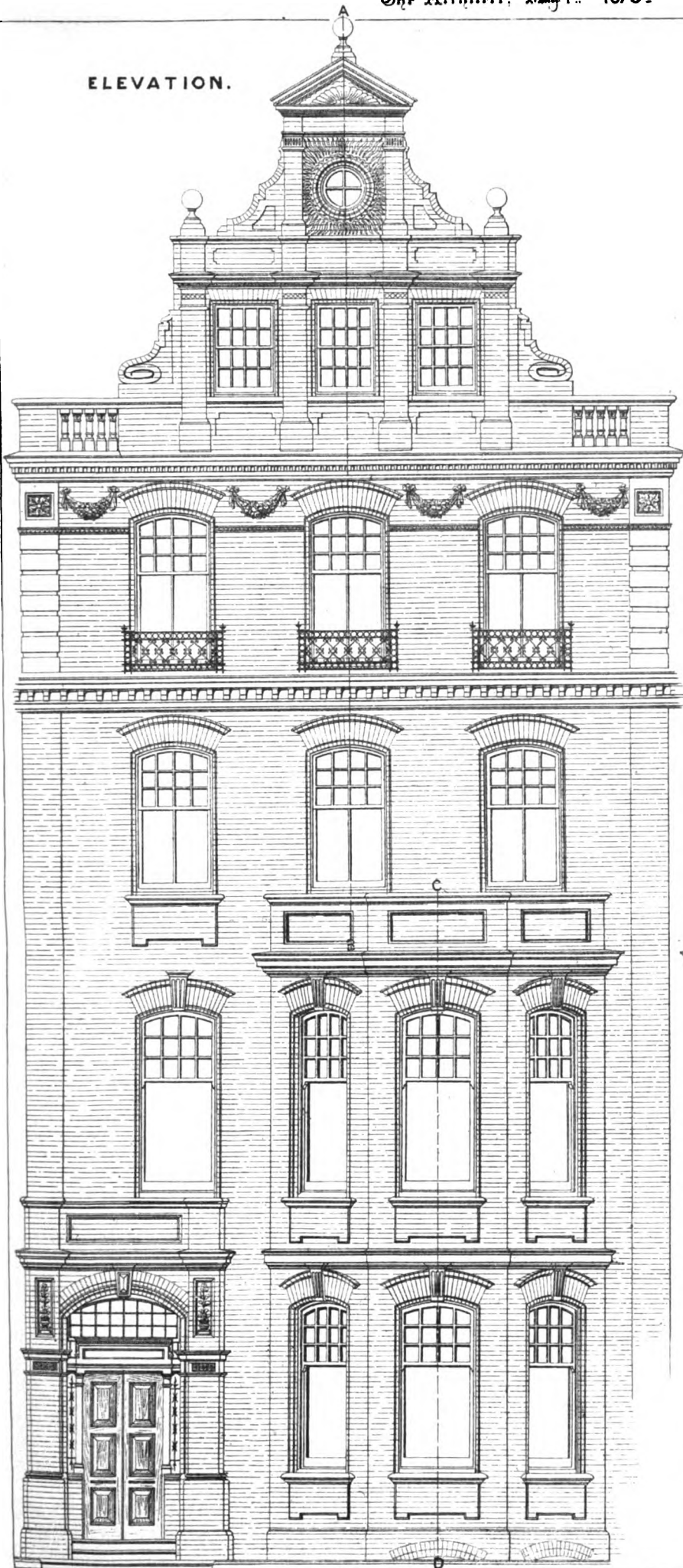


Albert Bettis, Del.
 Drawn by W. H. Wyatt & Co. London, E.C.

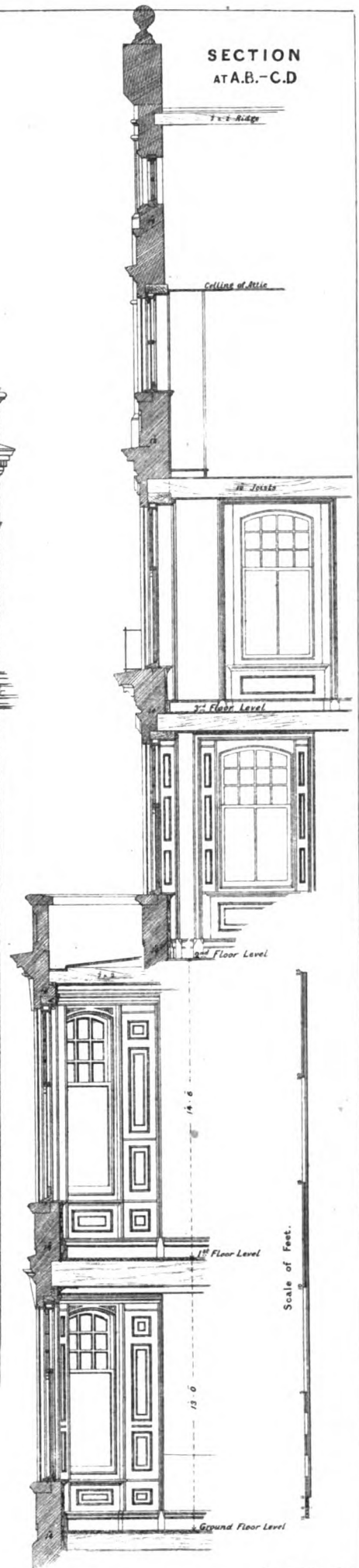
"THE PORTMAN ESTATE"—NEW MANSION FOR SIR BALDWIN LEIGHTON, BART, NO 2, UPPER BERKELEY ST.
 T. H. WYATT, ARCHITECT.



ELEVATION.



SECTION
AT A.B.-C.D



Albert Betts, Del.

Printed by W.W. Spence & Co. London R.C.

"THE PORTMAN ESTATE"—NEW MANSION FOR EDWARD M. HOPKINS ESQ. NO 3, UPPER BERKELEY ST.
R. HESKETH & ROBT. W. EDIS. F.S.A. JOINT ARCHITECTS.



THE MANLEY HALL COLLECTION.

MESSRS. CHRISTIE, MANSON & WOODS sold on April 23 and 24 the fine collection of paintings belonging to Mr. Sam. Mendel, when the following prices were obtained:—

J. BOUVIER.

Figures in a Landscape, 17 in. by 23 in., 15*l*. 15*s*.
The Garden of the Hesperides, and the Companion, 22*l*. 1*s*.
Rustic Courtship and Companion Picture, 22 in. diameter, 40*l*.

W. SHAYER.

A Gipsy Encampment, 20 in. by 24 in., 44*l*. 2*s*.
A Landscape, with peasants, &c., 29 in. by 24 in., 52*l*. 10*s*.
A Landscape, with cattle, 24½ in. by 31½ in., 57*l*. 9*s*.
The Companion, 24½ in. by 31½ in., 52*l*. 10*s*.

A. SOLOMON.

Brittany Peasants at their Devotions, 12 in. by 9 in., 56*l*. 14*s*.

T. CRESSWICK, R.A.

Pont-y-Pant Mill, North Wales, 50 in. by 40 in., 44*l*.
Hereford, vignette, 8½ in. by 6½ in., 136*l*. 10*s*.
Preston, vignette, 8½ in. by 6½ in., 89*l*. 5*s*.

F. DANBY, A.R.A.

Lake Leman, Switzerland, 24 in. by 35 in., 152*l*. 5*s*.

A. L. EGG, R.A.

The Night before Naseby, 40 in. by 50 in., 29*l*.
The Opera Box, 14 in. by 11 in., 73*l*. 10*s*.

W. ETTY, R.A.

Mars and Venus, 37 in. by 25 in., 525*l*.

C. R. LESLIE, R.A.

Hermione, 31 in. by 20 in., 546*l*.
The Miniature, oval, 20 in. by 16 in., 231*l*.
Scene from "Henry VIII." The King at Hampton Court, 1,365*l*.

D. MACLISE, R.A.

The Departure of Bayard for the Wars, 426*l*. 5*s*.

W. COLLINS, R.A.

A Rustic Shed, with white pony and man at a well, 210*l*.
A Landscape, with boys fishing, 17½ in. by 22½ in., 346*l*. 10*s*.
The Skittle Players (sold in 1866 for 1,207*l*. 10*s*.), 2,415*l*.

Sir A. W. CALLCOTT, R.A.

A Landscape, with ruins, cottage, and water, 420*l*.
Lance and his Dog (sold in 1860 for 388*l*. 10*s*.), 25 in. by 30 in., 404*l*. 5*s*.
Windsor Castle from the Thames, 6½ in. by 9 in., 128*l*. 2*s*.

DAVID ROBERTS, R.A.

Venice, on the Grand Canal, 6 in. by 8 in., 37*l*. 16*s*.
Venice, the Piazzetta of San Marco, 6 in. by 8 in., 37*l*. 16*s*.
Church of the Holy Nativity (sold in 1853 for 483*l*.), 1,417*l*. 10*s*.
The Interior of the Cathedral at Seville (sold in 1853 for 315*l*.), 1,890*l*.

J. CONSTABLE, R.A.

View on a Suffolk River, with a watermill, 630*l*.
A Landscape, with horses and figures, 15 in. by 9 in., 168*l*.

R. P. BONINGTON.

A Coast Scene, with ruins, boats, &c., 10 in. by 15½ in., 262*l*. 10*s*.
A Chateau on the French Coast, 14½ in. by 24½ in., 483*l*.

W. MULLER.

A View in Village of Stapenhill, near Bristol, 693*l*.
Gillingham, two children fishing, 22 in. by 16½ in., 630*l*.

P. NASMYTH.

A Waterfall in Glen Shirah, Inverary, 1,470*l*.

Sir DAVID WILKIE, R.A.

Sheep Washing at Fisherton Mill, 17 in. by 24 in., 199*l*. 10*s*.

R. WILSON.

A Lake Scene, with ruins and figures, 33 in. by 42 in., 735*l*.

Pictures by Foreign Artists.

H. KONKORK.

A Coast Scene, with a wreck and figures, 20 in. by 28 in., 78*l*. 15*s*.

MADAME HENRIETTE BROWNE.

Giving Baby a Ride, 16 in. by 17 in., 630*l*.
An Abyssinian Girl, 35 in. by 24 in., 420*l*.

A. E. PLASSAN.

Perfect Confidence, 6½ in. by 5 in., 48*l*. 6*s*.

A. SCHREYER.

Custom House Service in Russia, 16½ in. by 29 in., 378*l*.

E. DUBUFFE.

Prayers for the Absent Soldier, 65 in. by 48 in., 273*l*.

DYCKMANS.

Mary at the Foot of the Cross, 19 in. by 15 in., 525*l*.

ZIEH.

A River Scene in Algiers, 26 in. by 41 in., 630*l*.

C. L. MÜLLER.

Swiss Mendicants in a Storm, 41 in. by 31 in., 273*l*.

J. L. GEROME.

An Italian Peasant Woman and Child, 23 in. by 17½ in., 315*l*.

AUGUSTE BONHEUR.

A Souvenir of Lower Brittany, 40 in. by 50 in., 588*l*.
A Souvenir of Normandy, 39 in. by 51 in., 430*l*. 10*s*.
A Coast Scene, with peasant and sheep, 19 in. by 25 in., 635*l*. 5*s*.

E. FRERE.

It is caught! (Boys Bird-catching), 11½ in. by 14½ in., 420*l*.
The Go-Cart, 12 in. by 14 in., 252*l*. 2*s*.
Winter, 10 in. by 8 in., 126*l*.

L. GALLAIT.

Vargas taking the Oath on his appointment as President of the Council of Blood, 44 in. by 60 in. (sold in 1865 for 1,575*l*.), 2,677*l*. 10*s*.
The Wanderers, 31 in. by 25 in., 635*l*. 5*s*.
Columbus in Prison, 59 in. by 43 in., 892*l*. 10*s*.
The last Honours paid to the bodies of Counts Egmont and Horn after their Execution, 27 in. by 39 in., 1,155*l*.

C. TROYON.

Cattle in a Landscape, 31 in. by 45 in., signed, 1,008*l*.

BARON H. LEYS.

Going to Church on New Year's Day, 22 in. by 35 in., 871*l*. 10*s*.

PAUL DELAROCHE.

President Duranti, seized by the Ligneurs, signed, 21 in. by 18 in., 656*l*. 5*s*.
Napoleon Crossing the Alps, a small replica, 8 in. by 6 in., 420*l*.

ZURBARAN.

St. Francis at his Devotions, 64 in. by 54 in., signed and dated, 150*l*.

J. A. PULLAR.

A Gipsy Encampment, oval, 10*l*. 10*s*.

MODERN.

Portrait of a Horse, 27 in. by 35 in., 4*l*. 14*s*. 6*d*.
A Dutch River Scene, with boats and figures, 19½ in. by 27½ in., 9*l*. 9*s*.

WALTER FIELD.

A Grey Day on the Thames, Oxon, 36 in. by 58 in., 325*l*. 10*s*.

W. GALE.

A Cairo Flower Girl, 12 in. by 9 in., 73*l*. 10*s*.
A Greek Lady of Syracuse, 7 in. by 4 in., 84*l*. 10*s*.
An Egyptian Maiden, 8 in. by 6 in., 87*l*. 3*s*.
Autumn, 12 in. by 9 in., 105*l*.
God's Messenger, 14 in. by 9 in., 105*l*.
The Jews' Place of Wailing, Jerusalem, 21 in. by 29 in., 304*l*. 10*s*.

W. J. WEBB.

The Lost Sheep, 16 in. by 27 in., 378*l*.

MISS MUTRIE.

A Wedgwood Vase and Roses, 17 in. by 13 in., 32*l*. 11*s*.

W. C. T. DOBSON, R.A.

A Flower Girl of Dresden, 23 in. by 16 in., 173*l*. 5*s*.
A Drinking Fountain, 13 in. by 10 in., 88*l*. 4*s*.
The Young Botanist, 24 in. by 19 in., 183*l*. 15*s*.
Cinderella, 24 in. by 20 in., 183*l*. 15*s*.
Abraham and Hagar, 41 in. by 34 in., 493*l*. 10*s*.

H. O. NEIL, A.R.A.

A Tambourine Player, oval, 14 in. by 12 in., 73*l*. 10*s*.
Pardita, oval, 14 in. by 12 in., 73*l*. 10*s*.
A Market Girl, 10 in. by 9 in., oval, 44*l*. 2*s*.
Devotion, oval, 14 in. by 12 in., 19*l*. 19*s*.
The Last Moments of Raphael, 48 in. by 72 in., 1,102*l*. 10*s*.

W. H. KNIGHT.

Storming the Castle, 7 in. by 14 in., 79*l*. 16*s*.

W. J. GRANT.

Amy Robsart and Janet Foster, 7 in. by 5 in., 46*l*. 4*s*.
The First Step in Life, engraved, 30 in. by 23 in., 63*l*.

T. S. COOPER, R.A.

A Landscape with Sheep, 12 in. by 16 in., 84*l*.

J. B. PYNE.

The Upper End of the Lago Maggiore, 57 in. by 38 in., 388*l*. 10*s*.

W. WYLD.

Venice, Entrance to the Grand Canal, 57 in. by 37 in., 273*l*.

F. SANDYS.

Head of a Lady, 16 in. by 12 in., 89*l*. 5*s*.

F. W. TOPHAM, JUNR.

Juliet and Friar Lawrence, 53*l*. 11*s*.

MARCUS STONE.

Rustic Courtship, 11 in. by 10 in., 58*l*. 16*s*.

G. B. O'NEILL.

The Anxious Mother, 24 in. by 20 in., 168*l*.

C. BAXTER.

Little Red Riding Hood, 23 in. by 19 in., 178*l*. 10*s*.
Devotion, 24 in. by 19 in., 105*l*.

H. WALLIS.

The Death of Chatterton, the original motive for the large picture, 273*l*.

W. F. YEAMES, A.R.A.

The Chimney Corner, 15 in. by 24 in., 105*l*.

J. PHILLIP, R.A.

Boys Playing at the Bull Fight, in chalk, 19 in. by 28 in.; and The Church Porch (companion), 20 in. by 28 in., 157*l.* 10*s.*
Winnowing Corn (unfinished), 37 in. by 30 in., 504*l.*

PETER GRAHAM.

A Spate in the Highlands, 10 in. by 14 in., 430*l.* 10*s.*
Among the Hills, 44 in. by 70 in., 1,627*l.* 10*s.*
O'er Moor and Moss, 44 in. by 70 in., 1,102*l.*

J. T. LINNELL.

Border of the Moor, 16 in. by 24 in., 220*l.* 10*s.*
Opening the Gate, 29 in. by 44 in., 525*l.*
Autumn Evening, 26 in. by 31 in., 756*l.*

F. GOODALL, R.A.

A Nubian Water Seller, 22½ in. by 15 in., 178*l.* 10*s.*

W. E. FROST, R.A.

Aurora and Zephyr, 35 in. by 28 in., 399*l.*

H. S. MARKS, A.R.A.

The Notary, 28 in. by 36 in., 399*l.*

WILLIAM LINNELL.

Spring, 23 in. by 32 in., 220*l.* 10*s.*
The Gleaners' Return, 44 in. by 78 in., 630*l.*

R. REDGRAVE, R.A.

The Sylvan Spring, 25 in. by 32 in., 157*l.* 10*s.*

E. W. COOKE, R.A.

An Italian Coast Scene, with boats and figures, 9 in. by 17 in., 58*l.* 16*s.*

T. WEBSTER, R.A.

Sickness and Health, the original study for the larger picture, 241*l.* 10*s.*
The Results of Intemperance, 30 in. by 42 in., 840*l.*

J. R. HERBERT, R.A.

Mary Magdalene, 14 in. by 12 in., 378*l.*
Christ and the Woman of Samaria (engraved), 38 in. by 56 in., 556*l.* 10*s.*

G. D. LESLIE, A.R.A.

* * "She paused and counted as the Village Clock
In measured numbers told the appointed hour."
43 in. by 29½ in., 756*l.*

An Elopement, A.D. 1790, 47 in. by 89 in., 1,155*l.*
Willow, Willow! 10 in. by 18 in., 231*l.*

A. ELMORE, R.A.

Katherine and Petruchio, "Taming of the Shrew," 525*l.*

J. LINNELL, SEN.

The Mid-day Rest—Harvest Time, 37 in. by 55 in., 1,365*l.*
The Tramps, 28 in. by 39 in., 1,113*l.*
The Rustic Bridge, 18 in. by 23 in., 630*l.*
The Journey to Emmaus, 22 in. by 31 in., 703*l.* 10*s.*
Oxfordshire, landscape with a shepherd, dog, and sheep, 18 in. by 26 in., 756*l.*

P. H. CALDERON, R.A.

The Virgin's Bower, 70½ in. by 46 in., 1,029*l.*
A Scene in the Convent at Arles, 34 in. by 28 in., 304*l.* 10*s.*
Home after Victory, 48 in. by 81 in., 945*l.*
Cenone, 53 in. by 40 in., 787*l.* 10*s.*

W. WYLD.

Distant View of Monaco, 36 in. by 56 in., 367*l.* 10*s.*

J. E. MILLAIS, R.A.

* * "O, swallow, flying from the golden woods," 40 in. by 20 in., 1,050*l.*
Jephthah, 50 in. by 64 in., 3,990*l.*
Chill October, 55 in. by 73½ in., 3,255*l.*

The following small sketches by Mr. Millais were also sold. Most of them were used for the woodcuts in the illustrated edition of Tennyson's Poems:—

St. Agne's Eve, and Mariana in the Moated Grange, 19 <i>l.</i> 19 <i>s.</i>	The Miller's Daughter, 16 <i>l.</i> 16 <i>s.</i>
The Day Dream, 12 <i>l.</i> 12 <i>s.</i>	A Dream of Fair Women, 16 <i>l.</i> 6 <i>s.</i> 6 <i>d.</i>
The Death of the Old Year, 11 <i>l.</i> 11 <i>s.</i>	Locksley Hall, 20 <i>s.</i> 9 <i>s.</i>
The Talking Oak, 15 <i>l.</i> 15 <i>s.</i>	A Child Swinging, 42 <i>l.</i>
	The Proscribed Royalist, 26 <i>l.</i> 5 <i>s.</i>

J. C. HOOK, R.A.

The Lobster Catcher, 29 in. by 42 in., 1,480*l.* 10*s.*

E. W. COOKE, R.A.

A Scheveningen Trawler preparing for Sea, 35 in. by 54 in., 892*l.* 10*s.*

R. ANSDRELL, R.A.

A Visit to the Shrine in the Alhambra, 72 in. by 47 in., 630*l.*

W. P. FRITH, R.A.

Sterne's Maria, 44 in. by 31 in., 945*l.*
Before Dinner at Boswell's, in Bond Street, 38 in. by 63 in., 4,567*l.* 10*s.*

F. LEIGHTON, R.A.

A Venetian Noble Lady of the Sixteenth Century, 34 in. by 25 in., 997*l.* 10*s.*

T. JONES BARKER.

Relief of Lucknow, 106 in. by 190 in., 1,018*l.* 10*s.*
Portrait of Lord Clyde, 15 in. by 12 in., 31*l.* 10*s.*
Field-Marshal Lord Clyde, 24 in. by 17 in., 14*l.* 14*s.*
Lieut.-General Sir James Outram, 29 in. by 19 in., 37*l.* 16*s.*

T. FAED, R.A.

Only Herself, 53 in. by 39 in., 1,732*l.* 10*s.*
A Wee Bit Fractious, 53 in. by 39½ in., 1,995*l.*

E. M. WARD, R.A.

The Last Sleep of Argyle, 58 in. by 66 in., 840*l.*
The Last Scene in the Life of Montrose, 58 in. by 66 in., 840*l.*

OLD CROME.

An Upright Landscape, with peasants, 14 in. by 12 in., 63*l.*
A Woody Landscape, with a cottage, &c., 28 in. by 24 in., 53*l.* 11*s.*
A View near Woodbridge, Suffolk, 21 in. by 30 in., 168*l.*
An Upright Landscape, representing a road scene, &c., 71 in. by 55 in., 1,575*l.*
A Cottage View in Sussex, 12 in. by 9 in., 61*l.* 19*s.*

G. ROMNEY.

A Youth Nursing a Dog, 24 in. by 20 in., 220*l.* 10*s.*

T. GAINSBOROUGH.

Portrait of George IV. when Prince of Wales, 28 in. by 24 in., 483*l.*

SIR JOSHUA REYNOLDS.

Portrait of Miss Jane Davison, 23 in. by 17 in., 136*l.* 10*s.*

J. M. W. TURNER, R.A.

A View on the River Maas, Holland: the Church of Briel, 22 in. by 36 in., 2,625*l.*

The Grand Canal, Venice, engraved, 36 in. by 48 in. (painted for Mr. Monroe for 315*l.*; sold in 1860 for 2,620*l.*), 7,850*l.*

SIR EDWIN LANDSEER, R.A.

The Deer Family, engraved (sold in 1852 for 689*l.* 10*s.*), 54 in. by 38½ in., 3,045*l.*

"OLD WEDGWOOD" WARE.

HAVING been given to understand, says the *Staffordshire Advertiser*, that our remarks on fraudulent imitations of rare china have caused considerable commotion among the more unscrupulous of London dealers in curiosities, we shall do ourselves the pleasure of making another attempt to "frustrate their knavish tricks," by a few remarks on "Old Wedgwood" Ware. Mr. Gladstone's eloquent and enthusiastic address on Josiah Wedgwood, and the publication of several biographies of that eminent potter, led to a great demand for his works. Of these it may be said that they are more truly and distinctively national than any other kind of art-ceramics ever manufactured in this country.

The classic severity of Wedgwood's best productions—informed with the spirit of Flaxman—appeals to a higher order of taste than that which is satisfied with the frivolities of Watteau and Boucher or the simpering affectation of much of the Dresden and Chelsea ware. The number of pieces of original Wedgwood ware surviving the ninety or a hundred years which have elapsed since the works produced at Etruria were at their very best, is of course small, but when the demand for "old Wedgwood" arose the London dealer was equal to the occasion. It is, or was not long since, the boast of the present representatives of Josiah Wedgwood that whatever had been made could still be made at Etruria. All the old moulds have been carefully preserved, so that the original Portland vase which was sold a few weeks ago at Christie's for considerably more than one hundred pounds is identical with that which may be bought to-day at Etruria for less than one-tenth that amount, excepting only that the moulds from which the white figures are now obtained have lost somewhat of their original sharpness of definition, and perhaps the levigation of the materials is a trifle less perfect than in Wedgwood and Bentley's time.

The same remarks apply to hundreds of vases, plaques, medallions, cameos, and other objects which when undoubtedly original command prices like those obtained at the sale of the Barlow and Bagehawe collections. So soon as the demand arose, many of the London dealers—generally guileful Israelites—suddenly became large purchasers of new Wedgwood ware in jasper and black basaltes, which they palmed off at fabulous prices and profits on unwary collectors. After a time it became generally known that Wedgwood ware acquired with age a peculiar smoothness of surface, "like that of an infant's flesh," as Mr. Gladstone described it, with the affectionate enthusiasm of a true amateur. Now new jasper and basaltes, in common with all other varieties of biscuit pottery, have a raspy "feel" which nothing but age will remove, and in order to conceal this tell-tale asperity of surface all kinds of devices were resorted to by London dealers. We must content ourselves with mentioning one: two Jew dealers having quarrelled, one of them spitefully disclosed that his rival made a practice of keeping new jasper in a butt of stagnant soft water, trusting to the viscosity of the bath to give the ware the appearance of having the much desiderated smoothness of surface.

If we were to venture on a hint or two to inexperienced collectors we should say, never be beguiled into buying any "old Wedgwood" which does not bear the great potter's name; do not suppose that because it is so impressed it was necessarily produced under Josiah Wedgwood's personal superintendence, for it is a thousand to one that it was not; and if you have the opportunity of acquiring a piece marked "Wedgwood and Bentley" do not let it slip, for it was made when the works were at their prime—between 1768 and 1780—and whatever vicissitudes of fortune other varieties of old pottery may undergo this exquisite ware will always maintain its status. But even here imposition is possible, for it has happened before now that modern vases have been mounted on old plinths bearing the Wedgwood and Bentley mark.

THE PHILADELPHIA EXHIBITION.

THE applications for space in the British section of this Exhibition are numerous, and of a satisfactory character.

In consequence, however, of arrangements recently communicated by the American authorities, whereby the time for Foreign Commissions to make definite application for amount of space required is extended, it will be possible for the British Executive to receive applications from intending exhibitors, addressed to 5 Craig's Court, Charing Cross, London, up to May 15 inclusive.

THE ART UNION OF LONDON.

THE annual meeting for the presentation of the report and the yearly drawing of prizes in connection with the Art Union of London was held on Tuesday in the Royal Adelphi Theatre. Lord Houghton presided.

The report stated that the predictions as to the success of the engraving *Wellington and Blucher* had been verified. The sum of 18,926*l.* had been the total of the year's income, and was the highest amount ever collected by the Union. The cost of the year's work was 7,872*l.*, as against 2,210*l.* expended on the same account last year. This precluded an equivalent increase in the sum available for prizes. With a view of helping any movement tending to the art education of the people, the council had offered two premiums of 35*l.* and 15*l.* respectively, for designs for painting on pottery. The successful competitors out of 22 were Mr. R. Abraham, of South Kensington Art Training School, and Mr. J. Eyre, of 10 Adrian Square, Tregunter Road.

The report drew attention to a manuscript found among the papers of Walpole, at Strawberry Hill, showing that as far back as 1641 there existed in London an association called St. Luke's Club, to purchase works of art, to be afterwards drawn for by the members. Van Dyck entertained the subscribers at his own house, and on the cessation of civil war, Sir Peter Lely revived the society at his house. In 1689 the virtuosi, recognising the inconvenience of meeting at a private house, commenced to hold their meetings at taverns, and the Bumper, the Three Tuns, the Swan, the Fountain, and other well-known taverns were in turn the scene of their labours and festivities, for every year there was a dinner costing about "a crown." Among those who acted as stewards are found the names of Cloostermans, the painter, Grinling Gibbons, Michael Dahl, Sir Robert Child, Sir Christopher Wren, Hugh Howard, George Virtue, C. F. Zincke, Gibbs, the architect, Rysbrack, and W. Kent. Thus, the report said, the principle of an Art Union was clearly foreshadowed. It was further stated that the amount in the reserve fund of the Union was now 17,935*l.* The picture next year, it was announced, would be the *Death of Nelson*, as a companion picture to the fine engraving of the *Meeting of Wellington and Blucher*. The plate, it was stated, had taken five years to engrave.

Lord Houghton, in moving the adoption of the report, expressed the pleasure with which he ever attended these annual gatherings, notwithstanding, he said, that he was brought face to face with the ever-increasing difficulty of saying anything very new. He dwelt upon the beauty of the last engraving, and said, with respect to the forthcoming one, not a home which had any association with our naval service—and few had not—but would be gratified at having such a memorial of our great sea captain as the Union would give. He spoke of the death of Mr. Foley, the honour of whose acquaintance he had. He was a gentleman of the most genial disposition, and no one was more regretted by the members of his own profession. In this country sculpture was, on the whole, so unremunerative and accidental a profession that the loss of so great an artist as Mr. Foley—a man with so much heart and so much generosity—deserved to be profoundly regretted. Lord Houghton also referred to the deaths of Bond, Cabbell, and Grote, as causing losses of good friends of art, and concluded by expressing his gratification that the Union was making such progress.

Mr. G. GODWIN, F.R.S., seconded the motion. He said it was very distressing that in times like these foreign powers should be arming one-fourth or one-fifth of their people. England was, unfortunately, obliged to follow in their wake; but, inasmuch as it was so, he could conceive no more happy incident than the sending of the plates of *Wellington and Blucher* and *The Death of Nelson* all over the world wherever English men and women were gathered. It would remind them not merely of the merit of English artists, but also of the heroic times in our annals. At present the prices given for paintings were most astounding, and he was afraid that there was a great deal of manœuvring and arrangement at the bottom of it. It showed how desirable it was that the subscribers to the Association who gained prizes should display the greatest care in the choice of their pictures, and not be misled by the price or other such accidental circumstances.

The report was adopted, and then, on the motion of Professor DONALDSON, votes of thanks were passed to the hon. secretaries, Mr. Antrobus and Mr. Pocock. The Professor spoke of the great services of Mr. Watson, the assistant secretary. Thanks were also voted to Mr. Chatterton for the use of the theatre, and to the chairman.

The drawing for prizes was proceeded with, the following being the principal results:—Entitled to select a work of art of the value of 250*l.*, W. Howe, 107 Fleet Street; entitled to select a work of art of the value of 200*l.*, C. J. Pooley, Ancots; entitled each to select a work of art of the value of 150*l.*, H. Cushman, Mile End Road, and J. Dobell, Cheltenham; entitled each to select a work of art of the value of 100*l.*, R. Broadwater, 3 Bilitier Square, E. A. Chorlton, Warrington, H. Walters, Stoke Cross Road, and Miss Sidebottom, Hollingworth.

DECORATION AND COLOUR.

MR. J. G. CRACE read a Paper on last Saturday evening at the Artisan's Institute, St. Martin's Lane, on

Decoration and Colour.

In the course of it he said that one of the great questions of the day was how to educate and train the art workman so that he might take such a place in the trade or handicraft that he was to follow as workmen of the same class in a foreign country. With regard to the present subject, decoration was the art of adorning the objects that they used, and the houses they occupied. To accomplish this successfully the art should ever be accompanied by its handmaidens—knowledge and taste. In the study of any art it was necessary to understand thoroughly the rudiments of the

first principles of the art, and to teach these was one of the great objects of technical education. To decorate an object appropriately it was necessary to consider the material of which it was made. From the beginning they must work on certain principles. Let the construction be evident, and if carving or inlaid ornament be introduced, let it form a feature with the construction, and not overlay or disguise it. A proper disposition of well-proportioned forms was the first consideration. With respect to colour decoration as applied to the adornment of dwellings, it should be the ambition of every man to have his home clean, comfortable, and tasteful; and a knowledge of the rudiments of the science—for it was a science—must be useful to every man. Colour gave life to form; its variations, properly harmonised, delighted the eye, and had a powerful influence on the mind when treated with the skill which a careful and well-trained study of the art would enable them to exercise.

To study properly the subject of colour they must begin with the consideration of light. When the rays of white light were intercepted or dispersed colour was produced. Familiar to all of them was the glorious rainbow, which, as Thomson had told them, was

Born of the shower, and coloured by the sun.

The rays of light emitted through a prism gave out a series of brilliant colours known as the solar spectrum; and the relations of the colours thus produced formed the rudimentary principles which regulated the science of colour. With regard to harmony—how to bring together various colours in such proportions as to produce an agreeable effect—Mr. Crace said that bright red and bright green, bright blue and bright orange, could not be used together in masses without much modification. He spoke the more earnestly because he believed it was a popular delusion that these contrasts were quite correct. To combine various modulations of colour so that they might mingle together and form an harmonious whole, demanded careful study, practice, and taste. He could not too strongly urge upon those who sought to improve themselves in decorative art, to study carefully natural flowers and foliage, both for gracefulness of form and for harmony and richness of colour. In decoration, it might be laid down as a principle that one colour should dominate. In the majority of cases the most perfect and beautiful harmony was produced by employing neutralised hues of colour of the larger masses, and then giving freshness, cheerfulness, and beauty to the whole by the introduction, in small masses, of the primary or secondary colours that might form the proper equivalents to the prevailing colour. It should always be remembered that the eye was never satisfied with any arrangement of colour unless all the primaries were present in some shape or other. In carrying out decorations it would be found that all colours had two kinds of harmony—that of analogy or sympathy, and that of contrast. In churches, large halls, or public buildings of importance, it was necessary to consider very carefully the peculiar circumstances of each of them before designing the decoration or arranging the colours. He was not surprised at architects dreading the indiscriminate use of colour in a building on which they had bestowed so much careful study and labour. Judicious and well-designed arrangements of colour should add to the architectural effect. By these the principal constructive features of a building should be emphasised or clearly expressed; and the whole, avoiding confusion, should present a combination of symmetry of form and harmony of colour. As for himself, Mr. Crace stated he abominated whitewash. He saw not the beauty of interior stone walls unrelieved, nor did he see the impropriety of covering these real stone walls with glowing colour.

In Egypt there were to be found examples of decorative colouring done nearly 3,000 years ago, and still in fine preservation, and which excited the warmest admiration. The interior walls of the temples were often covered with historical representations brought out in colour; the main architectural features were also painted. In the British Museum and at the Crystal Palace might be seen reproductions of some of these well worthy of their attention. The Greeks, he had no doubt, carried the art of coloured decoration to the same perfection as the other arts in which they so excelled. Their descendants showed by their decorative works, executed in a provincial Roman city 1,800 years ago, how beautifully the art was still practised in their day. The city of Pompeii, submerged, almost forgotten during 1,800 years, and now brought to light again, showed all the details of Roman life as it existed at that distant period. The walls of the houses and public buildings, though roofless, were still glowing with colours, fresh as the day on which the awful calamity overtook the city. It was indeed a mine of wealth to the art student. Here he would find wonderful combinations of colour, and the utmost elegance, fancy, and beauty of ornament.

In conclusion, Mr. CRACE said that the subject was so various and extensive that it was impossible in a Paper to do more than point out some of the main features of art. Much must always depend on the industry and intelligence of those who followed an art, and it was certain that those who would resolutely study to improve themselves would open a road to advancement which, followed with perseverance, steadiness, and sobriety must lead to success. Work, steady work, was the element of success. Let every young man be encouraged to learn to draw, whatever the trade or occupation he might be likely to follow. It was sure to be a great amusement to him; it must be of the utmost value to him in after life. One of the best sources of art education was to visit frequently the glorious works collected in the Kensington Museum. This museum was to the art workman the most valuable and the most useful institution in the country, for in this museum artisans might see, each in his own special handicraft, examples of what might be accomplished by skilled art-workmen. Let the art student study these works carefully, then would he realise how art could ennoble even the most common objects, how the power of a true artist gave a charm to all that it was applied to; how art humanised, elevated, and purified the souls of those who would lend themselves to its influence, and how that influence would guide them in their labours, and help to lead them towards that excellence which it was to be hoped they eagerly desired to obtain.

HEREFORD CHURCH BUILDING SOCIETY.

THE annual meeting of the Hereford Diocesan Church Building Society was held last week, and it was reported that the proceedings during the past year had been satisfactory.

The Bishop of St. David's in proposing one of the resolutions, said that he had seen in another diocese the good working and great value of such a society. In the first place it stimulated activity in the building and restoring of churches, and it checked indiscriminate activity. He had had since he was called upon to take charge of the see of St. David's many plans laid before him which he had had difficulty in criticising, but which, if they had come before a committee of that society would probably have been more severely criticised—and why he had criticised them less was not because they were not extremely bad, but because it was difficult to persuade an architect that the Bishop knew anything about the matter. The plans were not unfrequently those of some local builder who thought himself an architect and as good a man as the Bishop, and, probably, better too—and all arguments were of no effect. Of course, he (the Bishop) could put forward the strong hand of power and say the plans should not be accepted, but such a course was attended with difficulty. But if he had a committee and a consulting architect his hands would be strengthened and individual fancies whether æsthetical or ecclesiastical would not be forced upon a public building. The Archidiaconal Church Building Society embraced a very important work besides church building and restoration, namely, the erection of parsonages; and he did not know whether that was not quite as important as the erection and restoration of churches. He did not know how it might be in the diocese of Hereford, but he knew that in some of the poorer dioceses there were large tracts of country without any official residence for the clergyman, and consequently no resident clergyman. He had had to grant permission to a clergyman to reside ten miles from his two parish churches which he held in plurality, because he had no residence.

The Bishop of Hereford drew attention to the critical position of the fabric of Leominster Church. A vigorous effort was now being made in the parish towards the restoration. It was not for him, he said, to go into details as to the antiquity of the church, because he thought they were all familiar both with the nature of the structure and also its present position; but he felt bound to say that unless some steps were at once taken there was the greatest danger lest the magnificent west window should fall out. The tower was certainly very tottering, and unless some steps were immediately taken those beautiful south windows, with the ball-flower ornament upon them, must crumble. If the public could be moved towards helping their brothers at Leominster, they would be certain to do a very great and good work. He had great gratification in saying that the Leominster people were bestirring themselves in earnest in the matter. Already they had subscribed over 3,000*l.* Not less than 10,000*l.* would be required, and he did not think it could be expected that Leominster and the neighbourhood should raise all that money. The Hereford Diocesan Church Building Society had on a former occasion made a grant when the Norman nave was restored with such excellent good taste; and he was quite sure when the cause of the other two naves which had grown up by the side of the Norman nave was brought before the Society, they would be glad to entertain the application and make as liberal a grant as they could. But after all the funds of the Society were limited, and it required to be generally known that Leominster Church was now really and truly in a very critical state. He hoped that the public notification of that fact through the press would induce many persons to subscribe.

THE NEW OPERA HOUSE.

AT the meeting of the Metropolitan Board on the 23rd ult. the following report was submitted by the Works and General Purposes Committee:—

"Your committee have to report that they have considered the letter from Mr. Mapleson, asking the Board whether they would make any objection to the opera house he proposed to erect on the Victoria Embankment, at Cannon Row, being kept to the old river line from east to west, referred by the Board on March 19 last. It appears that a depth of 200 feet is absolutely essential for a first-class opera house such as Mr. Mapleson desires to erect, and in consequence of his inability to purchase the houses in Cannon Row, it will be necessary in order to satisfy this requirement to advance the entrance of the building within about 30 feet of the pavement of the Embankment, and about a mean distance of 75 feet in advance of the restricted line of frontage. Mr. Mapleson also proposes to make a roadway on each side, 15 feet wide, to be given up to the use of the public should the Board not agree to the advance of the building with the principal front and entrance to the Embankment. The only way to get over the difficulty would be to place the flank to the Embankment, and make the entrance up one side, and this would of course render it necessary to forego the grand architectural effect which would be produced by an elaborate approach and entrance façade fronting the Embankment. There would also then be no side streets at all, as all the space to be given to them would be required, and the effect would be unsatisfactory. Your committee have reason to believe that the proposed alteration in the plan would not be objected to on behalf of the Government, and provided the intended streets are increased in width from 15 to 20 feet, your committee think the proposal of Mr. Mapleson merits the Board's favourable consideration. They beg to submit the plan referred to, and recommend that, subject to the above-mentioned increase in the width of the streets, and to the assent of the First Commissioner of Works, &c., the proposed alteration be approved."

Mr. RICHARDSON moved the adoption of the report, and said the Board

would remember that on a former occasion it was agreed that a piece of land on the Embankment by Cannon Row should be either sold or let to Mr. Mapleson, but with a certain building line laid down, with an arrangement with the Government that the building to be erected should not come before the premises of the Government Control Office. Since then Mr. Mapleson had been in communication with the Board, and he said this piece of land was not sufficiently large for the construction of a first-class opera-house, and asked the Board to make an alteration of the plan, so that he would be enabled to bring forward his building a distance of 75 feet, the front and entrance facing the river. At the same time, in consideration of the Board allowing him thus to come forward, Mr. Mapleson proposed to give them a street on each side of the opera house, thus opening up another approach to the Embankment. In fact, Mr. Mapleson's proposal was to give up more land for the benefit of the public by the construction of the two roads than he asked the permission of the Board to build upon. The committee had gone into the matter very carefully, and unanimously recommended the Board to approve of the proposed alteration on condition that the sanction of the Government was obtained, and he had reason to believe that in that matter there would be no difficulty, and the proposed new road should be 20 feet instead of 15 feet wide. Mr. Mapleson had stated to the committee that if his application was not granted he would be compelled, so to speak, to turn his building round with the entrance to the east. He (Mr. Richardson) need scarcely remind the Board that it would be an immense advantage to have the entrance and handsome façade of such a building as it was here proposed to construct, facing the river.

Mr. PHILLIPS seconded the motion.

Mr. WHITE hoped the Board would hesitate before they adopted the report of the committee, and without going fully into the merits of the case moved as an amendment that the report referred back to the committee for reconsideration.

Mr. W. R. SELWAY seconded the amendment, and observed that if they had advertised this piece of land in accordance with the amended plan they were now asked to adopt, they would have got for it a very much higher price than that paid by Mr. Mapleson. It was quite true that two roads were to be given up for the public, but one of those roads could not be of the least service to the general traffic of the district; the other might be made of some use in connection with Derby Street, but apart from that there were many reasons why, at any rate at present, the recommendation of the committee should not be agreed to. If, as proposed, the Board allowed the building to be brought forward, he thought the question of rental should be reconsidered.

Mr. NEWTON, in supporting the motion, referred to the unanimity with which the report was passed by the committee, and remarked that the area of the land to be built upon by Mr. Mapleson was actually less under the proposed arrangement than at present.

Mr. Deputy H. L. TAYLOR thought the Board should rather ask for one road 40 feet wide than for two roads half that width. He did not think the space given up by Mr. Mapleson for the construction of those two thoroughfares at all an adequate compensation for the advantages he would gain by being allowed to bring forward his building to such an extent as proposed.

Mr. Alderman SIDNEY spoke in favour of the motion for the adoption of the report, and after a few observations from Mr. C. Legg,

Mr. FREEMAN said the question of policy as to whether they should let this piece of land for the construction of an opera-house had already been settled by the Board, and having thus let the land they must now consider the consequences that followed from that act. In his opinion they would be thought very short-sighted indeed if they prevented Mr. Mapleson now from having an opening on both sides of his buildings. That gentleman's suggestion in that respect was good for the public, and it would only be common prudence for the Board to assent to it.

After some further remarks from Mr. LLOYD and Mr. PHILLIPS, the amendment was put, and negatived by 5 for and 25 against.

The report was then adopted.

TRADE DISPUTES.

THE operative bricklayers, joiners, and plasterers of Liverpool notified to their employers some time since their intention of asking for an increase of wages and a diminution in the hours of work, to come into force on May 1. The bricklayers request that day work be substituted for the present system of working by the hour, the rate of wages to be 3*s.* per week in winter, and 3*s.* 6*d.* in summer. This will make no material difference in the scale of pay, as at present it is 7*d.* per hour for a week of fifty-five hours, and it is not expected there will be much difficulty in granting the men's request. Another point which the latter put forward is with reference to the giving of notice by the masters. At present, in the event of rain or other causes, work can be stopped by giving the men an hour's notice, and they ask that a quarter of a day's notice should be given. With regard to the joiners and plasterers, their demand is more extensive, as they ask for a decrease of three hours per week, together with an advance of 1*d.* per hour. The masters have resolved to resist this demand, principally on the ground that a revision of the present rules was made only a year ago, and that they ought to have a larger and fairer trial before any change is made. No serious hostile feeling has yet been manifested by either side, and it is expected that before long the dispute will be satisfactorily settled by arbitration, more especially as the building trade is at present very brisk, and a strike would therefore be especially disastrous to both employers and men.

The masons employed in the restoration of the Minster and in other works in York have given notice that on and after Monday next, the 3rd inst., they will require an advance of wages and a reduction of the hours of labour.

THE PROTECTION OF BUILDINGS FROM LIGHTNING.

ON Wednesday Dr. R. J. Mann read a most elaborate Paper on the "Protection of Buildings from Lightning," before the Society of Arts. In the course of it he said that the first expedient in providing artificial protection from mechanical injury must be a continuous rod of good conducting metal carried from the top of the building to the ground. Then when the stroke of lightning chances to fall upon the building it goes by the easy way, and flows harmlessly and silently through the metallic rod to the earth, and the less perfect conducting materials of the house, such as bricks, mortar, cement, and wood, are not touched. In order, however, that this desirable result may be brought about, it is essential that the metallic rod shall be large enough to carry quietly and harmlessly the largest discharge that may have, under any circumstance, to pass through it. There is always danger from fire if a lightning conductor of insufficient dimensions happens to be carried along by combustible materials. The lightning stroke is certainly more likely to fall where a lightning conductor, of whatever kind, is placed than it would be if there were no such appliance. The lightning conductor, in such circumstances, may be "the slight acquisition of power which destroys the tottering equilibrium."

What the dimensions of a lightning conductor are that would fulfil this essential condition of giving sufficient capacity for the safe transmission of the largest possible discharge is yet an unsettled question. Mr. Preece argues that a No. 4 telegraph wire of galvanised iron, which is a quarter of an inch in diameter, is sufficient for the protection of most dwelling-houses, because No. 8 wires, of only half this capacity, are found practically to protect telegraph posts from damage by lightning. It is, however, most probable that in the case of telegraph wires a lightning discharge is distributed among several of these protectors, as several are brought into the system by the conducting telegraph wires above. In the instructions of the "Académie des Sciences," drawn up by Gay-Lussac and Pouillet, in 1823 and 1854, a square iron bar, three-quarters of an inch in diameter, was adopted as ensuring ample capacity for all practical purposes. An iron pipe, having the same sectional mass of metal, is better than a solid rod, because the electrical force is transmitted by the surface of the conductor, and a pipe obviously has more surface than a solid rod of the same relative mass. Galvanised iron is better than uncoated iron—in the first place because its surface is protected against rusting, and in the second place because the zinc conducts with three times greater facility than iron. A rope of galvanised iron consisting of forty-two strands of sixteenth of an inch wire is a very convenient form of conductor, on account of its ready flexibility, for purposes of conveyance and adaptation to angles and irregularities of a building, and on account of the long stretch that can be made in continuous lengths. If a conductor is made of several pieces, it is indispensable that those pieces should be joined together by absolutely perfect metallic union, or there will be greatly increased resistance to the passage of the electric force in consequence of the gaps. In strands of galvanised iron the galvanic surface affords a very easy path for the electricity, and the iron core is a stubborn metal in reference to heat, and not readily destroyed. A 42-strand wire rope of the character that has been described affords as much surface, and is in all respects as good a conductor as a strip of stout galvanised iron 4 inches broad. Copper is a five times better conductor than naked iron. A rope of copper wire, one-sixteenth of an inch thick, and with 28 strands, would be as efficient as a galvanised iron wire rope of 42 strands. Dimensions of this value are recommended, because they are unquestionably equal to any demand that can be made upon them, and because there is yet some measure of uncertainty in regard to the possible intensity of the electrical discharge in exceptional cases. It may perhaps be necessary to point out, in regard to this particular bearing of the subject, that the sole reason why telegraph engineers incline towards conductors of smaller capacity is that reduction in cost virtually increases the number of lightning conductors that are used. This is a very important practical consideration. But, on the face of it, and after patient and long-continued weighing of the whole subject, Dr. Mann, in his experience as a lightning engineer in South Africa, notoriously a favourite haunt of the thunder storm, adopted the 42-strand rope of sixteenth of an inch galvanised iron wire, and never found any reason to regret his practice. The provision is ample for buildings of considerable elevation. The mistake of employing too small a conductor is a very common one. Within the last few weeks the Secretary of the Society of Arts and Dr. Mann came upon a lightning conductor attached to a very handsome recently-restored church in the vicinity of London, in which a single very small galvanised iron wire was used, where a lofty spire was part of the structure, and where, apparently, the thin wire passed down the face of this spire along a casing of wood shingles.

The advantage of copper, in contrast with iron, for employment as a lightning conductor, is simply that it heats less easily under an electric discharge, is very stubborn to melt, and that it is the best of all conducting substances. Its disadvantages are, that it is much more costly than the galvanised iron conductor which furnishes an equal facility of passage, and that, as a metal, it undergoes a molecular change, from the frequent passage of strong currents of electrical force, which materially affects its conducting power. It must also be remarked that copper is a very much better conductor than brass. Copper costs about one-third more than brass, but it transmits electrical currents eight times as well. Messrs. Sanderson & Proctor, of Huddersfield, and of 18 Queen Victoria Street, have recently contrived a copper tape, or strap, for lightning conductors, which costs about one shilling the foot, and which is so flexible that it possesses in a very considerable degree the advantageous properties of rope. It can be bent round the inequalities of a building with the utmost facility, can be manufactured in continuous lengths to any extent, and can even be coiled for convenience of transport. This copper tape is three-quarters of an inch wide, and an eighth of an inch thick, and therefore contains a sectional area of a little more than a tenth of an inch of solid metal. This will most probably be found to be ample for all ordinary

purposes, and it can, of course, be readily doubled in any case where lofty buildings have to be protected.

The French electricians, who are unquestionably very high authorities in matters of this class, commonly employ metallic ropes, in preference to bars, for the main stretch of the conductor, because they possess a larger sectional area than solid rods of the same diameter, because they are more easily placed, and adapt themselves to irregularities of structure without the trouble of forging, because they can be readily made of any continuous lengths that can be required, and, in the case of iron, can be easily galvanised, and because they are so supple and more manageable. They consider that an iron cable should have a diameter rather more than twice and a-half that of a copper cable (27·3 millimetres against 1 centimetre) to have the same efficiency. M. Callaud, an eminent French electrical engineer, records that a rope of copper, four-tenths of an inch (one centimetre) in diameter, employed as a lightning conductor at the church of Sainte Croix, at Nantes, and which was made of seven strands, having each seven threads of wire of a gauge of 0·039 of an inch (one millimetre) in diameter, had certainly transmitted several very heavy electrical discharges without suffering any injury in its own substance, and that a similar rope of one-fifth smaller diameter (eight millimetres) previously employed had been injured by lightning discharges. Copper bars a fifth of an inch (exactly five millimetres) have been known to be as much injured by a single storm as by ten years of exposure and rust. M. Viollet-le-Duc, on the other hand, states that copper ropes seven-tenths of an inch (eighteen millimetres) in thickness were burned at Carcassonne. From a consideration of these facts and some others of a similar character, the French electricians of the present day employ ropes of copper of from four-tenths to eight-tenths of an inch (one to two centimetres) for each 82 feet of height.

The disintegrating energy of an electrical discharge is mainly expended upon the extremities of a conductor. It effects the most marked molecular disturbance on the part where it first falls, where most probably the first meeting of the two antagonistic forces occur, and where the terms of the new alliance have to be arranged, and also on the part by which it has to issue from the conductor to the ground—the great natural reservoir of the reserve of the energy. On this account lightning conductors require to be expanded and amplified both at their summits and at their roots or bases. The French Académie des Sciences directed that the top of the conductor should be a bar of iron 2½ inches in diameter, whether square or round, tapering up to a blunt conical copper point, shaped to an angle of 30 degrees. Platinum has very generally been recommended for the construction of the terminal points of lightning rods, because it is one of the hardest known metals to melt, and because it is also not easily oxidised. The points are shaped to an angle of from 7 to 10 degrees at the top, and are made a trifle less than 2 inches (5 centimetres by the French) long. In this form they are screwed firmly into the top of a rod of copper, which is then in its turn connected with cable or metallic bar below. The terminal rod is usually made of augmenting size as it descends, and is generally projected from 12 to 20 or 30 feet above the building that is to be protected. Platinum points are specially made for lightning conductors in Paris. They are supplied by Collins, of 118 Rue Montmartre; Breguet, of 96 Rue Montmartre; and Detouche, of 220 Rue St. Martin. The cost of a platinum point at these houses, grafted on brass, and from 50 to 70 centimetres (19 to 27 inches) long, is from 16 to 22 francs. For better finished work, with larger needles of platinum, grafted upon copper, the cost is from 60 to 200 francs.

M. Francisque-Michel considers that the points may be quite as advantageously made of silver alloyed with copper, in the same way that it is when used for coining silver money, that is, containing 165 parts of copper to 835 parts of silver. Messrs. Sanderson & Proctor construct these points very neatly, by simply twisting the copper tape spirally at the end, after the fashion of an auger, and then filing away the termination of the flat metal into the shape of a sharp angle. The entire terminal is also gilded over the copper to the extent of eight inches. This kind of point has the very obvious recommendation that it forms a continuous portion of the actual rod, and needs no joining or attachment.

The French electricians strongly recommend, upon the ground of the experiments of Professor Gavarret, that the lightning-rod should be terminated by a cluster or a crown of points, instead of by one alone. The Hotel de Ville at Brussels, which is a very large building, and which has been furnished with lightning rods upon a very complete scale by M. Melsens, a distinguished Belgian electrician, is literally bristling with points. It has 228 points of copper, and 86 points of iron, in its system.

The lower termination of a lightning conductor requires the exercise of even more care than its upper end, because it is less constantly, and less generally under observation, and any shortcoming or mistake in reference to it is fatal to the efficiency of the rest of the arrangements, however judiciously they may have been carried out. It must be in very intimate communication, not merely with the ground, but with the freely conducting portion of it. If a moist contact can be secured by insertion of the rope or rod into constantly damp soil, the contact need only be large enough to diffuse what is known as the electrolytic action—that is, the chemical disintegration of corrosive metals at moist contact when electric currents are operative—over a fairly extended space. If the contact is made with dry earth, the surfaces must be very large indeed. The drier the material that is involved—unless it be an extended system of continuous metallic substance, such as the underground iron tubes of water and gas supplies in towns, which are among the most efficient ground terminals that can be adopted—the more expanded must be the surfaces of communication and contact.

The French electricians have contrived a very excellent expedient for making an efficient earth contact. They construct a stout harrow of galvanised iron, with recurved teeth, connect this carefully with the end of the cable or rod, and then bury it imbedded in a mass of broken coke, in moist earth. The cable or rod is conducted to a suitable site for this terminal in channels of curved tiles, well filled with broken coke, or even

sealed up in leaden tubes, if there are ammoniacal vapours to be encountered by the way.

In Gay-Lussac's report to the French Academy of Sciences, in 1823, it was held that all large metallic masses contained in any building should be brought into metallic communication with the main system of conductors, and that there was no need whatever for the employment of insulating supports in attaching the lightning rod to the structures that it is intended to defend. These conclusions of Gay-Lussac's have been generally acted upon since his time, and no very marked case has ever occurred to stamp the practice that has been adopted in these particulars as radically wrong. In Dr. Mann's own practice, in the colony of Natal, he has almost invariably acted upon them, and no single instance of insufficiency of protection has ever come under his notice in consequence of the arrangement. The point is, however, one upon which there is now some difference of opinion in high quarters.

Professor Melsens, of the Royal Academy of Belgium, one of the highest Belgian authorities, contends, upon experimental grounds, that the well-known laws of derived electrical currents apply with equal force to the transmissions of electrical force of high tension, and that scattered masses of metal in any building should be metallically connected with the conductor by closed circuits constituted by contacts with two distinct points of the rod.

One point which was expressly urged by Mr. Preece and by Captain Douglas Galton, in the discussion of Mr. Preece's Paper at the Society of Telegraph Engineers, should be most carefully kept in view in any structural plan matured for the protection of buildings, namely, the including of all fireplaces or stoves, and soot-blackened chimneys in the system of connected construction. To adopt Mr. Preece's own statement of this need:—"It must not be forgotten that a chimney lined with a thick layer of soot, up which a current of heated air and volumes of smoke are ascending, and terminated by a mass of metal (the grate), is an excellent but dangerous conductor, for it ends in the room, and not in the earth."

ART IN THE FOURTEENTH CENTURY.

LAST week Mr. T. M. Lockwood, architect, by the desire of the Free-masons of Chester, read "The Story of the Battle of Agincourt as told by Shakespeare" at the Town Hall, in aid of the Chester Infirmary and the Masonic Charitable Institutions.

He introduced his Paper by referring to some of the characteristics of the fourteenth century. It comprised, he said, some of the most stirring periods of our history. The architecture and dress of the period show that art was in a flourishing state; and, as Mr. Ruskin has justly said—"The title, 'Dark Ages' given to the mediæval centuries is, respecting art, wholly inapplicable. They were, on the contrary, the bright ages; ours are the dark ages." Many of our noblest architectural monuments belong to the fourteenth century. Then arose the fair chapels of New College, Oxford, the nave of Winchester Cathedral, and a portion of Windsor Castle—all built by William of Wykeham, not only an architect of no mean abilities, but Lord High Chancellor of England and Bishop of Winchester—honours which do not fall to architects of our own degenerate times. Besides those mentioned, the following were also built:—The Lantern Tower and St. Mary's Chapel at Ely Cathedral, portions of the cathedrals of York and Lincoln, and St. Stephen's Chapel, Westminster, on which was lavished all that was most exquisite in the art of architectural design and sculpture. Westminster Hall itself was then built, the roof of which is unequalled, not only in design, but in its scientific combination of timber for roofing so great a span as 68 feet, in which respect it is equal to anything that has been done in this engineering age; and infinitely beyond it with regard to the art shown in its construction. The south transept sedilia, choir screens and stalls of Chester Cathedral were then built; and also the Water Tower on the city walls, and it may be stated, as an instance of the changed value of money, that the cost of it was 100*l*.! The buildings, both ecclesiastical and domestic, were truly magnificent, although retaining a grand simplicity of treatment. The builders of those days strained every nerve to render their cities noble and picturesque, and their country houses and even their barns were beautiful additions to the scenery which surrounded them. It had been truly said that "a noble sentiment pervaded every building. Each one was treated with care as to its appearance, comfort as to its arrangement, and honesty as to its construction;" and this integrity of purpose was carried out even in the meanest works. An object painful to the eye was held to be as inexcusable as an offence against any of the other senses.

The principle of modern utilitarianism that, provided our dwelling is comfortable within it does not matter how it offends the eye of our neighbour without, was not recognised; yet that principle is carried out to its fullest extent in the majority of modern houses in town and country. (In proof of his remarks, Mr. Lockwood called attention to the series of drawings around the room, by his pupil, Mr. Harry Beswick.)

The view of Lichfield Cathedral would give a good idea of the prevailing features of the ecclesiastical buildings of the period in question, while a bay of the interior of Lincoln Cathedral and two bays of the exterior (south transept) of Chester Cathedral, and the doorway of Rochester Cathedral, would show the beauty of detail which our forefathers delighted in. Two street views, one showing the decorations for a mediæval tournament, and the other a round tower at an angle, and a third view of a priory and barn, indicated the general character of street architecture. An interior view of a mediæval chamber and its furniture showed a degree of refinement and beauty which was not generally supposed to have been attained at so early a date, but which the old illuminations and inventories of the time would warrant. In those inventories mention was made of silken curtains, feather beds, mattresses, flat cushions to be placed against the wall at the back of the bed, the bed serving as a couch during the day, as the same chamber was used for both sitting-room and bedroom, which was still the custom in France. Thus it would be found upon careful examination that, with all our boasted improvements and advances in civilization, so far as comfort is concerned, the country house of the middle ages

presented as many luxuries to its inhabitants as a modern house does to ourselves, making some allowance for the wants of a less effeminate age.

We were often too ready to look disparagingly upon the "dark ages," as we called them, and to fancy that our forefathers lived more like cattle than human beings. But we might, with the evidence now to be obtained of these times, look back in imagination, and transport ourselves, for instance, into one of those halls at Christmas time, with the yule log blazing on the hearth—hear the sounds of music pouring forth from the minstrels' gallery, or the peals of merry laughter from the vicinity of the jester, with dancing carried on with thorough goodwill in another part—and so realize, to some extent, a scene of warmth and comfort which might well bear comparison with the refinements and stiffness which civilization often imposes in our modern drawing-rooms.

The illustrations of the costumes gave a fair notion of the dress of the period; and it must be confessed that, so far as fitness, simplicity, and beauty were concerned, our ancestors had the advantage over us. Mr. Ruskin, a great authority upon such matters, observed that "a degree of personal beauty, both male and female, was attained in the Middle Ages, with which classical periods could show nothing comparable; and this beauty was set forth by the most perfect splendour, united with grace in dress, which the human race have hitherto invented." The strength of their art-genius was directed in great part to this object, and their best workmen and most brilliant fanciers were employed in wreathing the mail or embroidering the robe. Then the beauty of the human form was fully recognised, and the dress was made so as to hide as little as possible its proportions, and to add a dignity to its appearance—not like our nineteenth century dress, which seems to be specially prepared to make the *genus homo* a ridiculous and pitiable object in the eyes of his fellows. In proof of that, take the attire of a modern gentleman in evening dress, crown it with the correct and inevitable hat of the period, and compare it with the dress of the Middle Ages, and see which best brings out the grace and the dignity of the "human form Divine." It might be urged that some of the ladies' head-dresses of the fourteenth century presented a rather startling appearance; but he would respectfully submit that examples might be found, even in these later times, which would afford a fair field for criticism. However, he felt that to be dangerous ground in the presence of so many fair critics, and the dress of the ladies of the present day was so much more graceful than that of the gentlemen, as not to give the latter any vantage ground. Still, he thought that a jury of ladies of our own time would give their great-grandmothers of the fourteenth century credit for good taste.

Mr. Lockwood then referred to the literature of the period, and said that he had but to mention the name of Chaucer to show that though the age was not prolific in literary productions, yet a great light had arisen, which was not only to illumine his own time, but, by his graphic and charming descriptions of the manners and customs of our ancestors, to hand down to us who live 500 years later, scenes of English life in the fourteenth century, and to give permanence and consistence to the language and poetry of our country. Chaucer ranks to this day as one of the finest minds in the world of literature, and one of the most charming and forcible writers of English of our own day, Mr. Ruskin, quotes him more frequently than any other author.

ARCHITECTURAL ASSOCIATION OF IRELAND.

AN ordinary general meeting was held on Thursday evening, April 22, the President, W. M. Mitchell, in the chair.

A discussion on

The Queen Anne Revival

was opened by Mr. John L. Robinson (hon. sec.) in the following brief Paper:—

Since the days when Stuart and Revett measured and published drawings of the remains of Ancient Greek Temples, architecture in this country has become as changeable as the winds, and as extravagant in some respects as ladies' fashions. Before considering the latest craze let us pause to recall the different styles that have attracted the attention of architects; for since the days of Elizabeth our art has been endued with no healthy vitality, just owing its existence to the fleeting fancy of the hour.

First we had Stuart and Revett, and, consequently, a mania in the direction of Greece. Greek temples and Chiosic monuments studded the land, until the fashion changed to Roman Classic; then Sir Charles Barry introduced Italian in his Travellers' Club, and paralysed the architectural profession by daring to design a club house without an order of columns tacked to the outside walls. Architects in those days could not understand how a window could be made an architectural feature without columns. So this building was bepraised, measured, and published, and helped to make a man of Sir Charles. Such success begat imitators, so that we were treated to Italian Palazzo in all shapes and forms for some years. Then Pugin came on the scene, and succeeded after a great struggle in turning the fashion to sixteenth-century or Tudor Gothic. Then we had a trial of Decorated, Norman, and Thirteenth-century Gothic. After a due course of these, Mr. Newfield and Mr. Shaw published their well-known Continental Sketch Books, and straightway Continental Gothic became fashionable. Mr. Ruskin also influenced some men to try Venetian.

Two or three years ago we had a Japanese craze; then half-timber houses; and now everyone is going mad about the so-called Queen Anne Revival, or Free Classic. So that I should not be in the least astonished if Mr. Ferguson's exertions would at last succeed in converting us to the beauties of the Indian styles, and Egyptian and Chinese remains be tried when others fail.

The Queen Anne Revival, as it is called, arises from the humiliating fact that a few men lead the profession in England, all others following at a respectful distance; and no sooner has one of those leaders adopted any peculiarity of style than he has scores of followers. Hence when Mr. Norman Shaw (who has distinguished himself by many beautiful Gothic designs) designed the New Zealand Chambers in London, a building with which I have no doubt you are well acquainted, then several of the

smaller fry followed his example, and designed in Queen Anne with the same facility as they had heretofore done in Gothic.

The principal merits claimed for the style by its admirers are—That by its means architects are enabled to throw some art and picturesqueness into their work at a moderate expense, and that truthfulness of construction can be obtained in it as in Gothic—an argument scarcely tenable in the face of mock windows and shaped gables.

The London School Board has served to give this movement an impetus it would never otherwise have obtained, and the City is now being covered with Queen Anne schools.

In the course of my rambles through Dublin I have come across some curious old houses, whether of the Queen Anne period I cannot say. I am more inclined to assign them to the reign of George I. I have taken a few photographs of them that will give you some idea of how picturesque a street of such houses would be. The bricks in the strings and cornices are richly moulded; the gables are carved and topped with a moulded brick pediment. The interior of these houses were often elaborately finished, the walls of halls and rooms being sheeted with oak wainscot, and the staircases have carved and twisted balusters. Almost all the chimney-pieces have disappeared, and the houses are let in tenements, yet withal these houses have an air of dignity and comfort, and recall the days when the weavers of the Liberty were a wealthy and important body, and many a merchant prince resided in Blackpitts or the Coombe.

I had some time ago, when taking down several of these houses, an opportunity of studying their construction. The walls were only 9 inches thick, and the fireplaces in a corner of the rooms. The roofs had gables to the four walls, hence all the thrust was thrown on the four corners by means of the valley pieces. This mode of construction was adopted to obtain as much space as possible in the roof, and saved the expense of gutters. The window-frames were not revealed, the outside casing being exposed to view; the sash-bars were very strong, and the panes small.

I am of opinion that where we cannot indulge our Gothic proclivities, such as in town houses, we might learn a lesson from the humble houses in the Liberties of Dublin.

Mr. J. J. O'CALLAGHAN said that the "Queen Anne" had all the faults of Classic, and any of its merits were derived from Gothic, and that Mr. Norman Shaw threw the spirit of Gothic into his Queen Anne buildings. The New Zealand Chambers were Gothic in spirit. He did not think this fashion would last long. He thought that architects should adopt either

round arches or pointed, and treat them truthfully. This constant craving for something new is deceptive, and will lead us into difficulties. There are new things done every day for which no precedent can be found in ancient work. He did not care what style a man adopted; so long as he worked truthfully in it he must produce a beautiful building.

Mr. R. S. SWAN said that the craving after novelty is seen in London, which is studded with the ugliest modern buildings in the world, and that the Queen Anne style is a mere passing fancy, merely attractive from its novelty.

The PRESIDENT said that some four years ago, when in London, he saw some designs at the Royal Academy Exhibition in this style, and was much surprised. Since then the movement had spread considerably. Any leader like Norman Shaw will have followers, who will produce a number of inferior designs. He thought that as it so nearly approaches our vernacular architecture, and has some art to recommend it, it might be adopted where clients will not consent to mediævalise their houses; but where Gothic architects are left free to follow their fancy, and adopt Queen Anne, it can be only looked on as a retrograde movement. He also thought that the expense of specially moulded bricks would be so great in Dublin as to prohibit any elaborate Queen Anne design.

SALE OF FORTUNY'S PAINTINGS.

THE following prices were obtained this week at the Hotel Drouot, Paris, for some of Fortuny's paintings:—"La Plage de Portici," Mr. Stewart, New York, 49,800 f.; a Spanish scene, "La Sortie de la Procession," 222,000 f.; M. Hedoin; the "Basse Cour de l'Alhambra," Mr. Stewart 74,000 f.; the "Fortifications of the Alhambra," M. Alexandre Dumas 500 f.; "La Cour de l'Alberca à l'Alhambra," M. Goupil, 27,000 f.; "A Burial on Shrove Tuesday at Grenada," M. Errazu, 18,000 f.; "A Sketch of the Battle of Tetuan," 9,020 f.; "A Butcher's Shop," 9,800 f.; "Arab Musicians Before a Moorish King," 8,000 f.; "Two Copies after Goya," 10,000 f. each; "Une Fantaisie Arabe at Tangiers," 11,000 f.; "A Gitanes Leaning on a Donkey," 13,400 f.; "Children Playing in a Japanese Room," 30,000 f.; "A Street in Grenada," 5,000 f.; "Bathers at Grenada," 3,019 f. We may add that the last number of *L'Art* contains a discriminative article on Fortuny, and excellent engravings from several of his works.

THE COST OF METROPOLITAN IMPROVEMENTS.

THE following summary, prepared from information supplied by the several Vestries and District Boards, shows the total amount of new works executed in the Metropolis, from January 1, 1866 (the date of the Metropolis Local Management Act coming into operation) to March 25, 1874; also the total expenditure on such works; the increase during that period of the number of street lamps; and the length of streets and roadways under the jurisdiction of each body:—

Parish or District	New Sewers constructed	Cost of New Sewers constructed		Expenditure on other Sanitary Works		Superficial area of Paving laid down*	Cost of Paving Works		Expenditure on other Street Improvements		Total expenditure on New Sewers, Sanitary Works, Paving, and other Improvements		Number of Street Lamps added	Length of Streets and Roadways under control of Vestry or District Board	
		£	s. d.	£	s. d.		£	s. d.	£	s. d.	£	s. d.		1866	1874
St. Marylebone	25 990	80,185	0 0	(not stated)		not ascertained	412,812	0 0	152,345	0 0	644,792	0 0	127	594	604
St. Pancras	17 683	55,000	0 0	211,652	0 0	150,865	127,069	0 0	1,000	0 0	394,781	0 0	1,867	484	80
Lambeth	61 25	206,880	0 0	10,200	0 0	813,343	119,280	0 0	2,300	0 0	338,480	0 0	1,811	66	86
St. George, Hanover Sq.	(not stated)	81,078	2 11	10,370	18 11	(not stated)	263,786	17 1	12,801	0 0	307,735	18 11	34	14	41
St. Mary, Islington	10 577	51,512	5 10	1,364	11 4	541,863	106,278	6 10	40,000	0 0	198,156	4 0	1,246	50	87
St. Leonard, Shoreditch	8 21	13,924	1 3	1,500	0 0	501,646	119,094	3 7	6,015	0 0	140,638	4 10	70	45	81
Finsbury	18 35	76,117	12 6	28,506	10 7	154,157	32,010	0 0	50,866	12 0	187,659	14 7	682	21	43
Bethnal Green	14 1,192	23,000	0 0	(not stated)		384,629	104,390	9 0	4,154	19 5	131,455	8 5	181	34	43
St. Mary, Newington	22 3	40,587	5 2	29,262	7 7	131,893	44,241	14 8	8,483	5 9	123,574	13 2	166	26	34
Camden	60 0	120,000	0 0	2,000	0 0	118,497	45,000	0 0	87,611	0 0	254,611	0 0	910	32	82
St. James, Westminster	(not stated)	16,094	2 7	(not stated)		(not stated)	179,010	16 9	2,063	0 2	196,997	18 9	29	13	13
Clerkenwell	1 1,438	2,899	8 6	17,871	2 3	149,819	46,180	16 5	29,158	12 9	96,109	19 11	41	19	18
Chelsea	3 1,013	11,806	19 8	1,344	13 6	1,056,226	93,314	19 1	9,829	4 6	116,295	16 7	197	19	24
Kensington	27 1,100	90,318	0 0	1,434	0 0	149,007	118,963	0 0	16,741	0 0	227,456	0 0	2,375	23	67
St. Luke, Middlesex	4 807	6,967	7 9	1,484	2 1	95,000	49,396	0 0	25,568	14 0	83,408	2 10	(none)	14	16
St. George, Southwark	3 1,048	6,090	14 5	2,021	19 3	119,292	71,675	12 4	200	0 0	79,888	6 0	50	22	23
Bermondsey	11 868	24,332	7 7	(not stated)		(see note A.)	49,034	13 6	7,581	1 2	74,948	2 3	918	163	81
St. George-in-the-East	3 1,427	7,170	0 0	21,579	0 0	75,058	26,204	0 0	11,399	0 0	66,392	0 0	60	16	17
St. Martin-in-the-Fields	1,000	8,264	0 0	1,000	0 0	(not stated)	57,059	0 0	2,900	0 0	69,223	0 0	(none)	51	8
St. Andrew, Old Town	14 697	18,467	0 0	9,500	0 0	168,825	60,441	0 0	8,000	0 0	86,608	0 0	277	16	27
Woolwich	(not stated)	5,662	0 0	(not stated)		(not stated)	21,415	0 0	2,074	0 0	29,051	0 0	170	11	18
Rotherhithe	10 657	21,618	18 7	150	0 0	169,076	41,562	16 1	3,344	13 9	66,676	8 5	50	6	11
Wapping	12 506	43,086	6 1	100	0 0	42,081	20,256	0 0	1,083	9 0	44,444	15 1	712	18	28
Whitechapel	4 1,320	26,868	0 0	(not stated)		(not stated)	78,484	0 0	71,440	0 0	176,792	0 0	94	21	21
Westminster	(not stated)	14,640	19 2	76,900	17 11	456,799	127,060	11 7	1,822	1 8	220,414	10 4	247	24	37
Greenwich	40 1,535	118,332	14 9	(not stated)		105,218	63,762	15 6	1,143	0 0	189,238	10 3	658	85	62
Wandsworth	155	259,368	9 0	528	10 0	123,037	67,000	0 0	16,846	16 2	343,758	15 2	1,459	55	100
Hackney	21 286	32,759	0 0	367	12 0	112,143	31,875	0 0	1,850	0 0	66,861	12 0	772	30	70
St. Giles	3 897	17,855	18 4	99,798	0 9	167,608	92,848	8 4	1,413	3 4	211,915	10 9	11	17	17
Holborn	2 1,072	21,622	10 10	(not stated)		248,629	43,264	3 7	906	9 9	55,933	4 2	55	11	11
Strand	2 221	8,566	0 0	6,946	0 0	118,378	55,405	0 0	13,444	0 0	84,353	0 0	(none)	16	10
Fulham	11 880	72,000	0 0	(not stated)		(not stated)	22,000	0 0	1,600	0 0	36,600	0 0	799	16	37
Limhouse	6 1,123	78,731	18 11	4,487	8 5	277,900	97,988	19 8	68,248	16 3	245,057	5 3	170	23	35
Poplar	15 576	29,186	7 11	4,680	18 7	210,941	79,103	0 0	16,507	6 4	129,447	12 10	612	30	47
St. Saviour's, Southwark	(not stated)	4,400	0 0	850	0 0	406,956	54,516	0 0	(not stated)		59,766	0 0	100	6	9
Plumstead	23 704	45,000	0 0	15,409	0 0	321,737	32,097	0 0	9,949	0 0	101,766	0 0	606	27	56
Lewisham	26 887	40,880	0 0	(not stated)		92,568	26,398	0 0	4,430	0 0	71,668	0 0	1,175	26	45
St. Olave, Southwark	1,281	864	0 0	26,724	0 0	256,468	35,149	0 0	19,385	0 0	82,122	0 0	43	6	6
Totals	685 296	1,781,474	11 1	587,932	13 2	7,196,607	2,038,406	3 0	709,206	3 0	6,067,226	16 3	17,480	2254	1,464

* In addition to the paving returned in this column, many Vestries, &c., have laid large quantities of kerbing, channelling, &c.

A. Superficial area not given; length of streets, &c., repaved, 15 miles, 7 furlongs, 39 yards.



The Institute of Architects and the Annual Meeting.

SIR,—I trust to the fairness and courtesy with which your journal has been conducted to insert this letter with reference to the leader on the Institute of Architects in your last issue.

The question raised in that article is a very fair one to be discussed, but not, I think, on a false issue and without full examination of the whole circumstances as bearing on the welfare of the Institute.

With respect to the question raised about the honorary secretary's frequent absence from his post, the attack made upon him, without notice to him, or his being present, if a joke, was of a kind of humour not generally appreciable, and Professor Kerr's support (no doubt also humorous) effectually obscured the character attributed to it in your article. Though it was needful at the succeeding meeting to permit the Honorary Secretary (if worth his while) an explanation or protest; enough was shown when Professor Kerr again rose to prove the advisability of not entering on a discussion of a personal character before many visitors, who came for an entirely different purpose, and of the wisdom of the bye-law which relegates discussions of this sort to special or annual meetings. What course can be more logical or sensible?

The writer of your article expects that the debate would "wax warm," but the question raised is, I venture to think, one which every true well-wisher to the Institute should regret has ever being introduced and which can result in nothing but evil to the working of the Institute.

With reference to the action at the last meeting of one or two of the Council, it was simply an act of supporting the chair in an ordinary matter of order after his ruling, and would be misconstrued if looked at in any other light.

With respect to the second point in your article, viz., the question put on Monday night last relative to the award of the Soane prize, the answer is equally simple. The whole question had been most fully discussed, settled, and adopted by the special general meeting a short time previously; it was no longer an act of the Council; no possible good would have been obtained by its discussion, and it would again have created the remark made, if I mistake not, in your journal previously, that a valuable Paper would have been lost to the meeting for that evening by the discussion of a matter quite foreign to its object. Here, again, was the wisdom of the bye-law made manifest. If any adequate cause of dissatisfaction exists with the recommendation of the Council, the time when they render up their stewardship is the time for comment and action, though others are provided by the constitution; but the circumstances in this case were peculiar, because the member questioning the chair ought to have known that the matter had been discussed most fully and a decision arrived at, not out of deference to the Council, but after the merits and demerits of each design had been fully laid before the meeting. Where, therefore, is there the smallest title of evidence that the Council want to restrict in the slightest degree the liberty of its members within the lines of the constitution the Institute has freely adopted?

It has been often remarked that the fortnightly meetings of the Institute are desultory, and to an extent unbusinesslike in character, when then the Council are earnestly endeavouring to meet this complaint, and to afford the facilities demanded for at once getting to the Paper of the evening, it is a strange inconsistency to charge them with gagging the members. I can well understand the action of those few connected with the Institute who have shown an unbending hostility to the present secretarial arrangements, and who would desire to take this opportunity of unsettling that which, on the whole, is working to the advantage of the body and profession at large, but then the subject should have been approached in a different way and in a different spirit.

May I claim that you will, as aiding in the maintenance and extension of a liberal profession, loyally assist the Institute in establishing cordial relations amongst its members, and, if I might avail myself of this opportunity, I may express a hope that many of its experienced and tried friends will be present on the evening of May 3 to prevent any rash or ill-considered step being taken which may serve to permanently injure its usefulness.

Your obedient Servant,

April 27, 1875.

C.

Soane Competition, 1875.

SIR,—Will you allow me space for a word on this subject.

Those who saw Mr. Scott's design would not be surprised to learn, as they did from his letter in your issue of the 17th ult., that he disagreed entirely with Mr. Johnson's view of the conditions of the competition, but many of them would have been very glad to know by what line of reasoning he arrived at opposite conclusions.

On this subject he is silent, and it is perhaps hardly to be expected that the Institute should reply to the criticisms on its action by taking part in a paper war, yet I must think that the matter is one which those who wish the Institute to command the confidence of the younger members of the profession would gladly see explained in some way.

At present it seems simply inexplicable that—1, the prize committee; 2, the council; and 3, the general meeting of the Institute should concur in an award based on the principle that "front" means "side;" and that, having prescribed a frontage of 50 feet they should concur in admitting elevations representing a frontage of more than 100 feet.

Of course one story is good till another is told. All that I would ask is that some one will tell the other story, when doubtless I shall cease to be Puzzled.

General

A Paper will be read at the next meeting of the Society of Engineers on "The Use of Paint as an Engineering Material," by Mr Ernest Spon.

Mr. Wynn Ellis has presented to the South Kensington Museum the marble statue of Eve, by the late E. H. Baily, R.A.

The Bishop of St. Asaph has consented to refer the question of the Denbigh reredos to two lawyers, one to be chosen by himself and the other by the committee; and if the reredos is declared legal his lordship will consecrate the church.

M. Godecharle, the son of a Belgian sculptor, has left the sum of 600,000 f. for the benefit of Belgian sculptors. The interest, amounting to 30,000 f., to be divided into prizes to be given yearly to the best sculptors.

M. Gérôme's Painting, *La Danse du Sabre*, from the French Gallery, Pall Mall, was submitted by Mr. Wallis to the inspection of the Queen at Windsor Castle on Monday last.

Professor Sidney Colvin will, during May, give four lectures at Cambridge on "The Cathedral of Siena, and in particular the Inlaid Work of the Pavement," and two lectures on "The Campanile of Florence, and in particular the Sculptures of the Base."

The Sultan has given commissions to M. Gerome and M. Boulanger for several paintings.

The late Rev. William Selwyn, D.D., Lady Margaret Professor of Divinity at Cambridge, who died on Saturday last, during his term of office appropriated 700l. a year of his stipend as an accumulating fund for the building of a Divinity School at Cambridge—an edifice much required. The amount of the accumulations is now about 10,000l.

The Proposal to establish a Professorship of Mechanism and Engineering in the University of Cambridge is to be referred to a syndicate for a report before the end of the present term.

The Bill for promoting the construction of a Great Central Terminus for the Metropolis, under title of "The London (City) Land Station and Subways," has been withdrawn.

The Ecclesiastical Commissioners have made the following grants:—Towards providing parsonages—1,450l. to All Saints, Brightside, Yorkshire; 500l. to St. Gregory the Great, Canterbury; 450l. to Christ Church, Epsom Common; 383l. to Claines, Worcestershire; 250l. to St. Mark, Stamber Mill, Worcestershire; and 200l. to All Saints, Darlaston. The Commissioners have also granted a piece of land (1,815 square yards) in Peterborough for the use of the incumbent of St. Paul's, in that city.

The Belgian Government have decided that the works of foreign artists are to be admitted to the Exhibition of Fine Arts, which is to be held at Brussels in the month of August next.

The Designs of Messrs. Hay & Oliver have been selected by the Wellington School Board, Somerset, and also by the Little Bytham School Board, Lincolnshire.

The Collection of Casts left to the nation by the late John Gibson, the sculptor, will, it is said, be opened to public view at the close of May, at the Royal Academy.

The Dublin Public Health Committee have called upon the Corporation to take immediate steps towards cleansing the Liffey by means of dredging barges, and to charge the expense to the parties responsible for its present condition.

The Thames Conservancy have withdrawn the summons against the Mayor and Corporation of Windsor for polluting the Thames, upon payment of costs by the defendants, who are about to complete the necessary drainage works.

The North of England Institution for the Blind, at Sheffield, has, on the death of Mrs. Caroline Davenport, become entitled to a bequest of 20,000l., intended to provide new buildings.

The Yorkshire Congregational Union have expended, during the past year, 49,913l. in the erection of chapels and schools.

The Paris Municipal Council have approved the construction of a carriage road, open for traffic night and day, before the garden front of the Tuileries.

The Collection of Curiosities belonging to the late Mr. R. W. Billing is to be sold by auction next week, at Moulinere, Wandsworth Lane, Putney. The collection consists of antique English, Dutch, Venetian, and French goblets, old china, candelabra, chatelaines, shoe and waist-buckles; an antique iron chest, of Flemish work, richly decorated; curious old firearms, swords, and weapons of various kinds; suites of armour, old wood carving, and antique furniture.

The "Lancet" says that anyone who cares to penetrate into the innermost parts of the Houses of Parliament, and force his way into one of the Committee Rooms, will find that, though flanked by the Thames on one side, its stuffiness and odoriferous nastiness are really appalling, rivalling in these conditions the Old Bailey and an East End Police Court in their worst days.

The Lantern of Ely Cathedral, on the painting of which Mr. Gambier Parry has been engaged during the past year, will be reopened in June.

The Architect.

THE ANNUAL GENERAL MEETING OF THE INSTITUTE OF ARCHITECTS.



ON Monday evening last the general business meeting of the Institute for the Session 1874-75 was held according to regulation, when the President, Sir GILBERT SCOTT, took the chair, and there was an unusually large attendance of members. The business to be transacted consisted of the reception of the annual report of the Council, with a balance sheet of the accounts, and the election of officers for the ensuing year. We print the Report in another part; and we may dismiss the balance sheet with a very few words of interesting information.

The income of the Institute, exclusive of trust moneys, is a little over 1,700*l.* a year; consisting of subscriptions of members, 1,884*l.*; dividends on stock, 120*l.*; dividends on shares in the Architectural Union Company (the body of proprietors of the house in Conduit Street), 61*l.*; sales of Transactions and other Papers, 16*l.*; and receipts for advertisements published with the Transactions, 141*l.* The disbursements of the past year have been as follows:—For the rooms, &c., 336*l.*; for salaries, 570*l.*; for printing the Transactions, notice papers, &c., and for stationery, 538*l.*; for the annual conversation, 112*l.*; for the Conference (alternating biennially with the Architectural Examination), 40*l.*; for books added to the library, 137*l.* (besides 61*l.* of special donations); for the Soane prize 50*l.*, and other prizes, 16*l.*; and for sundries and insurance, 47*l.*; making in all 1,850*l.* The trust funds are the several sums the income of which endows the Pugin Travelling Studentship, the Fite prize, the Grissell prize, and the Ashpitel prize, namely, 840*l.*, 1,000*l.*, 250*l.*, and 100*l.* respectively. The capital stock is 4,487*l.*, besides 340*l.* called the "Travelling Fund" but without further explanation. The shares in the Architectural Union Company stand at 880*l.* The library and other collections appear to be worth between 3,000*l.* and 4,000*l.* It is almost superfluous to remark that the balance-sheet which accounts for such figures as these must be held to represent the means of accomplishing something of considerable moment from year to year for the good of architectural art and the architectural profession in England, and that, if some of the more earnest amongst the members should be found to complain now and then that what is actually accomplished is less than it ought to be, they may reasonably claim to be excused for the suggestion, even if it be sometimes applied in a way apparently unreasonable.

We do not consider ourselves authorised to report to our readers what takes place at the business meetings of the Institute, but there will always be on such occasions some incidents of particular interest which form the subject of open conversation outside the walls, and upon which, therefore, it would be an affectation of punctilio to be silent. In the present instance there were several of such incidents; and, in commenting, as it is our duty to do, upon the published Report of the Council, we may take leave to refer to some of these points in passing.

In perusing the Report, however cursorily, the reader can scarcely help perceiving that it possesses considerable literary pretensions. Style, commonly repudiated in such documents of business, is here indeed expressly displayed. It must not be thought surprising, therefore, if now and then the pen of the writer is found to be running away with him.

The very first paragraph furnishes an instance of this. The Council have to make the simple intimation that they have not very much to dwell upon in the way of business of a prosaic kind. This is expressed, therefore, in the following excellent but unusual phraseology:—"The Statistics with which it has been customary to fill the opening pages of this Report do not this year call for any special comment." Now the precise meaning of this language, looked upon as the first sentence of such a report, is at least difficult to discover; and an impression which is very likely to be taken up by those who complain of want of activity in the administration is that there has been such an excess of ease during the last year as to bestow upon the Institute that peculiar happiness which is associated with having no annals. This, of course, is not the intention; but when the pen which thus early shows a disposition to take the bit in its teeth is seen at the termination of its journey to be indulging in such wild gambols as the lines exhibit which we now feel bound further to quote, we may certainly hazard the opinion that scarcely one member of the Institute out of a hundred could be believed capable of approving such an escapade, and we try in vain to think of a parallel example in the official reports of our scientific societies.

"It is only those conversant with the executive functions of a Society," says the Report at its close, "who can be aware of the marked divergence of opinion which exists respecting its policy and

management. *Party spirit, actuated by special motives, &c., &c.* But it is a mistake to suppose that the Institute can ever be modelled on a plan which will realise the precise ideal of a particular clique, &c., &c. If members would bear this purpose in mind, and remember that it will be most readily affected by a steady loyalty to the Institute, both within and outside its walls, there need be no fear of its failing to retain its long-established position as the representative body of a profession whose status and welfare are of far higher moment than the pursuit of party aims and individual crochets!"

Thus ends the Report; and it is not to be wondered at that one of the members—although we regret to say it was only one of the juniors—boldly asked the question what "party spirit" and what "special motives" were here hinted at, what "particular clique" was thus denounced, what class of members were thus challenged upon their "loyalty," and what on earth could be meant by "party aims and individual crochets." It is only charitable to suppose that the Council as a body had no meaning at all to attach to such fine language; and no doubt a large meeting of the constituency, loyal to their cause, would tacitly agree, as matter of good taste, to ignore altogether this fierce and purposeless beating of the air; but what is to be thought of it by strangers—by the enemies of the profession, who seem to be so numerous now-a-days—or by its friends, who find it so hard sometimes to find excuses for its shortcomings? For the sake of the reputation of the members of the Institute at large for mere common-sense, we are glad to be told that a feeling was freely expressed in the room *sotto voce* that the paragraphs from which we have quoted were only too absurd for notice, being utterly without foundation in fact.

The Special Committee appointed this time last year to try what could be done to mend matters generally do not seem to have been so idle as many scoffers have supposed. During the twelve months that have intervened they have had fourteen meetings. The report is in hand, and may be expected to be published within a few weeks. Let us at least anticipate that it will not be written in such brave words as those we have just been regarding; but we cannot help noticing the ominous hope which is expressed by the Council concerning their endeavours—that "they will not share the fate of a somewhat similar inquiry in 1849." What this sad fate may have been we cannot tell, but six-and-twenty years are surely a sufficiently ample interval to have rendered the ghost of this episode of professional history too harmless to be brought forward to scare us now. One thing we are told pretty plainly—that the Committee have ceased to look upon financial reform as being in any way desirable. If the statement of income and expenditure be correct which we set forth at the commencement of this article it certainly would seem as if the finances of the Institute are not so wholly satisfactory after all, when only 16*l.* a year is coming in from the sale of Papers, and only 16*l.* a year going out in those ordinary prizes which are perhaps the most really useful of all. Moreover, if the same figures be correct, we are somewhat at a loss to understand how the Council make it out that "the excess of receipts over current expenses in 1874 was greater than had been anticipated;" and still more anxiously should we ask how it is that "the estimate for 1875 promises a balance of 180*l.*," were it not that it is of course an architect's estimate.

The Architectural Examination is threatened with abolition: for "it remains to be considered" says the Report "whether the Institute is justified in maintaining at considerable expense and trouble the organization of a system of education which seems to be so little appreciated." Seeing that nothing is more easy than to conduct the examination without any expense at all in money (beyond what is met by the fees of candidates), and with no more trouble than a labour of love, we must express a little alarm when we thus read the proposal to sacrifice this most useful enterprise.

But this is not the only sacrifice that is suggested, in no other interest apparently than that of ease. The investigation of the important question known as that of the Quantity Surveyors is "postponed with advantage;" the annual dinner will "only be repeated if an adequate number of members signify their intention of being present;" and, what will astonish many persons considerably, the attendance of Members of Council at the ordinary general meetings is officially pronounced to be no longer to be expected. In consequence of "the extended relations of the Institute" the Council meet half-an-hour before the old time of seven o'clock, on the evenings when these ordinary general meetings are held at eight. Nay more, the extra half hour proves to be "barely sufficient;" and, what with the fatigue, and what with the insufficiency of time, the gentlemen of the Council, who in all other such Societies march grandly in together to occupy the chief seats in the common hall as an indispensable matter of course, are in this Society to hold themselves excused from the duty of "remaining for the General Meetings." What will be the consequence of this wise regulation it requires no more than equal wisdom to foresee.

The circumstance is taken into due consideration in the Report that, apart from the point just disposed of, "the attendance at ordinary general meetings is less now than in former years." But we are desired not "to ascribe this to a falling off in the quality of the lectures provided." What this is intended to mean may not be lightly affirmed; but if it is to be understood that the pabulum of the ordinary meetings of the Institute of Architects shall no longer be "communications," "transactions," "papers," or whatever they may

be best called for the suggestion of their proper character as artistic and scientific novelties submitted for the criticism of experts in guild assembled, but merely shall be "lectures provided," as if the occasion were a penny reading or an amusing entertainment in a suburban school-room to while away a winter's evening, then we can scarcely hesitate to say that the chief functions of the Institute have ceased to be carried on, and that the attendance at such unworthy sittings must soon dwindle to such small measure as shall be a signal warning to sister societies.

The courageous assertion that the printing of the "lectures" in professional journals otherwise than "in an abstract form" is one principal cause of the falling off in the attendance at the meetings is simply too much of a marvel to be criticised. What the architects of London want is some occasion which shall have the power of attracting them to Conduit Street on the appointed evenings, for the purpose of enabling them, not to listen to a "lecture," but to exchange opinions upon whatever may happen to be uppermost, in public discussion if it be a public matter, or in private conversation if it be no more than a personal consideration. Thus it is that it has frequently been remarked that the free confabulation of the tearoom is of more real interest to the members at large than any amount of learned debate under the eye of the chairman; and thus it is that the specific grumble of the older men invariably takes this form—"Twenty years ago we used to be certain of seeing each other at the Institute on the Monday evenings; and if any one of us had a matter of business to talk over with another who was usually out of reach, that was the time and that was the place to catch him."

If we now quit the field of adverse comment for that of satisfaction, this good purpose may at any rate be served that praise shall have the benefit of the last word.

The paragraph in the Report which speaks of the astonishing blunder made by one or two architects of fair repute in consenting to offer their services in competition with others after the manner of tradesmen who "tender" at a price, was very pointedly taken up by the meeting. To express utter disapproval of so ignoble a system was really almost unnecessary, because it cannot be believed to be possible that it is becoming an institution amongst us. At the same time, when the meeting at large declared the bare idea of such a practice to be repugnant to their simplest sense of professional honour, no one could blame them for taking all the risk of being sneered at as a trade's union in their eagerness to express their opinion of the extreme and suicidal error which is involved in the mistake in question. For tradesmen, of whatever respectability, to offer their goods in competition on the basis of price, is one thing; but for professional agents, however unpretentious they may sometimes be, to submit their claims for employment upon any similar basis of competition is a thing altogether different both in principle and practice; and as regards architects, we venture, with all respect for even the outsiders of the profession, to express the hope that the mistaken wisacres who choose their man by means of the lowest tender may find him worth precisely his own valuation, and discover in their own experience what real meaning there is in the phrase "penny wise and pound foolish."

The unnatural practice called "Cannibalism" was also mentioned in the discussion of the Report. It is complained that, in order to earn an ignoble guinea or two from an attorney, architects so called, and even members of the Institute, are found to be ready "to assist professionally" in assailing a brother in his private and personal capacity, or, what is the same thing, in his professional capacity as an alleged maladministrator of his business. Dog, it was said, will not eat dog; but architect will prey upon architect. If this practice be truly a recognised thing, if one member of the Institute is really to be found assisting a plot to plunder or to ruin another, the question what is the use of the Institute is one that may fairly be asked.

The surrender of the Examination was urgently deprecated, and a motion was made and carried to the effect that a committee of the Institute, composed of both Fellows and Associates, should be put in communication with a committee of the junior Society to concert measures for the prevention of such a disaster by furthering the supply of candidates. We need only remark that this throws upon the Architectural Association the onus of providing examinees in a way which is very different from calling upon the Institute to find examiners. The latter task is easy, but the other may be much more difficult than is supposed. It is, in a word, the duty of the Institute to take the proper steps for attracting candidates; and if this duty has not been energetically attended to, nothing else is wanted to furnish a reason for the failure of the examination scheme. But at any rate we have to congratulate the meeting upon having shown every disposition to help the cause.

The threatening notice with reference to the administration of the Secretaryship of the Institute resulted fortunately in no bad blood. The mover was unquestionably more than ordinarily anxious to exhibit moderation, and to do his best to avoid giving personal offence where it was almost impossible to avoid it; and the meeting, although not entirely free from the charge of having "waxed warm," took on the whole a very prudent and sufficient view of the complaint. If any member had come prepared to fight a motion with an amendment, and to settle it by a stormy debate and a division, he was disappointed by the simple manœuvre whereby the speech "calling attention" to an alleged abuse ended without a motion. All

that was charged against the present secretariat was the formal and technical objection that the Charter and Bye-laws of the Institute in their true intent and meaning draw so distinct a line of demarcation between the Council and the salaried officials that no paid secretary ought to be elected as a member of the Council; but on the other hand, although still on technical rather than practical ground, it was very fairly answered that, although the time might come before long for reverting to the old system, still the present plan of appointment amounted rather to this—that two secretaries are chosen annually by the Institute as members of the Council and that the payment of one of them for special services may be regarded as a succeeding step rather than a preceding one. Thus the point was adjusted, and little harm done if little good.

A similar notice with reference to the foreign relations of the Institute had been given, but the lateness of the hour at which it came on was a very sufficient reason for its withdrawal.

It seems to us very questionable whether one business meeting per annum is sufficient for the discussion and settlement of those topics of general interest which in such a society as the Institute cannot but crop up much more frequently than once a year. It is true that special business meetings are sometimes held, but their action is necessarily confined within the strict limits of the special question of the moment. What is wanted is a better opportunity for that general discussion of professional politics without which it is impossible for a guild, true to its title, to exercise any real influence upon its constituents in detail, or upon the public outside. We quite agree that it would be impracticable to raise such controversies at the ordinary "lecture" meetings, when there is a particular work to be done of a very different kind, and when any number of strangers and reporters are present; but we cannot agree that no opportunity whatever should be afforded for such debate except at one meeting a year of two hours' duration, when the time is fully appropriated to the discussion of a report and a somewhat tedious process of electing officers.

In concluding our notice of this important meeting we cannot help congratulating the Institute upon the overflowing attendance, and pointing to it as evidence that there is an all-sufficient amount of internal power in the body if it can only be directed to its proper ends.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

The Greek Plays.

INCLUDING the doubtful one, there are no less than five plays devoted more or less to Greek story, and one with a background so far derived from Greece that I take leave to class it with the others. These six plays refer to four different periods, and may be chronologically arranged as follows:—

A Midsummer Night's Dream . . .	} B.C. 1184—900.
Troilus and Cressida . . .	
Winter's Tale . . .	} B.C. 430—407.
Timon of Athens . . .	
Pericles . . .	} B.C. 190.
Comedy of Errors . . .	
	A.D. 300.

But in affixing approximate dates for the action to these dramas I see no reason why certain of them—namely A Midsummer Night's Dream, Winter's Tale, and the Comedy of Errors—should not be considered as wholly belonging to their author's time. The proper names, Athens, THESEUS, HIPPOLYTA, ÆGLE, ARIADNE, which occur in A Midsummer Night's Dream, are no doubt eminently Greek, but the woods where the two girls HERMIA and HELENA "upon faint primrose beds were wont to lie" are as English as the clowns and the fairies, than which nothing can be more English. The fact that THESEUS refers to his battle with the Amazons, and how he first conquered and then loved their Queen, HIPPOLYTA, although strictly in accordance with the classic legend is hardly sufficient to weigh down the host of improbabilities that crowd the stage when this play is produced with costume, &c., in imitation of Greek fashions. Again, when THESEUS talks of the livery of a nun, shady cloisters, and the like, he is of course distinctly referring to the votaries of DIANA; and when the ladies and gentlemen swear they swear by pagan deities, although the names they give them are Roman. But PUCK and BOTTOM—nay, even tall HELENA and proud TITANIA—each is quite enough to outweigh the Greek element in the play. Still, if it must be produced with classic accessories, we should do well to be true to the little there is of classic reference. Thus, although THESEUS, in the heroic character we have of him, may be a myth, still the connection of his name with that of fair HELEN of Troy brings the man within the range of archæology. And thus we should be led to place his union with HIPPOLYTA only a few years before the siege of Troy. For although the story of the Trojan war was not long ago regarded by every scholar as fabulous, with no more foundation at the furthest than that which might be derived from the settlement of the Greeks on the north-west coast of Asia, now—if we accept as genuine the excavations and discoveries made by Dr. SCHLIEMANN—we cannot but have some hesitation before we venture to draw a hard and fast line between the fact and the fiction of the legend. If then the play of A Midsummer Night's Dream must needs be

acted, and if it must needs be classically clothed—and there are many reasons against both *if*—the architecture, costume, and accessories may very well be the same as those in the play of *Troilus and Cressida*. One thing is, or ought to be, quite clear, and that is, that the Acropolis of Athens, as we know it, with its Parthenon, Erechtheum, and Propylæa, has just about as much relation to the Greeks of the time of ULYSSES or THESEUS as the Reform Club has to KING JOHN. We have, indeed, to travel back, not merely beyond the time of the Parthenon (438–420 B.C.), or beyond that of its predecessor (650 B.C.), but beyond the days of HESIOD and HOMER (900 B.C.), past the Dorian conquest of the Achæians in Peloponnese, and so higher up the stream of time until we reach the early period of the Pelasgic civilisation. The siege of Troy has been calculated by some to have happened B.C. 1194–1184; by others it has been placed as far back as fifteen centuries; that is to say, before the foundation of Nineveh, and during the Egyptian rule in Assyria. The uncertainty thus shown leaves us free to choose between four dates. 1. The time of the author of the play (1600 A.D.). 2. The time of the author of the story (900 B.C.). 3. The date assigned by one group of antiquaries to the events recorded in the story (1184 B.C.). 4. The date assigned by some classical scholars as about the period of the siege of Troy (1500 B.C.). As the difference between the latest date suggested for the real siege and the accepted approximate date of HOMER's story of it is less than three centuries, as the poet may possibly have incorporated into his work much that in his day was received as genuine tradition, as both in HOMER and HESIOD we have the most detailed descriptions to guide us, and as it may be possible to reconcile much, if not most of DR. SCHLIEMANN's genuine discoveries with the descriptions, I would accept the period, 1184–900 B.C., in preference to any later or earlier time as that wherein to seek the architecture and costume of the two plays above mentioned.

A Room in the Palace of Theseus is the only architectural scene in a *Midsummer Night's Dream*, and for the character of this interior we must turn to Assyria and Persopolis, to the descriptions of SOLOMON's Temple and house of the Forest of Lebanon (B.C. 1005), and the fragments of Mycenæ and other Pelasgic towns. (See LAYARD's "Nineveh" and TEXIER's "Asia Minor.")

In *Troilus and Cressida* we have in the text twenty-five Scenes, of which five are architectural. These are

1. Before PRIAM's palace.
2. A room in the same.
3. A street in Troy.
4. A court before the house of PANDARUS.
5. A room in the same.

In the background of many of the scenes outside the town might loom the "embattled walls," the "lofty towers," and the Scæan gate of world-famed Ilium, only it may be as well to bear in mind that what an inhabitant of London, or Paris, or Carcassonne in the fourteenth century thought of embattled walls and lofty towers was a very different sort of thing from what a Greek understood by these words, for the word *ὑψηλός* simply meant a strong walled building; and thus the pylons of an Egyptian temple and the wings of the Propylæa at Athens were equally towers in the Greek sense. The bas-reliefs from SENNACHERIB's palace at Koyunjik (B.C. 700) tell us something about embattled walls and gates. The walls might be built in regular coursed work, as at Mycenæ, or of polygonal masonry, like the street paving discovered on the hill of Hissarlik. SHAKSPERE, like HOMER, does not fail to tell us that one tower was higher than the others (Act I. Sc. 2), but beyond this he says nothing that would illustrate the work classically or mediævally. The dramatist, however, marks distinctly the separation between the town of Troy and Ilium—in other words, between the town and the palace of PRIAM or the Acropolis, the citadel or stronghold, or Pergamus, wherein stood not only the KING's house, but the temple and the store-houses, and where also the eastern tower stood, from which the battle-field was overlooked by HECUBA and HELEN. The exaggerations that invariably accumulate round the nucleus of fact in all stories of heroic deeds must be allowed for when we come to estimate the evidence as to the size and arrangement of Troy. If the city really stood on the hill of Hissarlik, and DR. SCHLIEMANN be right in his conclusions (see *Architect*, April 17), then the city was no larger than many mediæval fortresses with which we are familiar. If, on the other hand, the works exhumed on Hissarlik represent only the extent of the citadel or Pergamus of Troy, then the boundaries of the city itself may be extended on one side (the south) of it, like an Assyrian city, to almost any distance compatible with the probabilities of the case. So, then, for PRIAM's house we have to choose between a palace not much better than a pele or border tower, capable of accommodating about twenty people at the utmost, and one arranged after the plan of those at Nimroud (B.C. 900), Khorsabad, or Koyunjik. If it be the first, then HOMER's language is high saluting from beginning to end; but if the last be the right view to take of it, then the poet's descriptions may very fairly be examined in any endeavour we may make to realise the architecture of Troy for the scenic purposes of the play of *Troilus and Cressida*.

In the sixth book of the "Iliad" we are told that PRIAM's stately courts were raised on columns of stupendous frame, that—

Over these a range of marble structure runs
The rich pavilions of his fifty sons,

and that opposite to the sons' lodgings were those devoted to the daughters and their husbands. In the "Odyssey" one of the palaces has a high hall with walls of flaming brass, a blue cornice, doors framed of gold set with silver pilasters and lintel; each side the doorway is a dog wrought in silver and gold, and from the threshold skirting the walls are thrones or couches reaching—

in lustrous long array,
On to the far room, where the women met,
With many a rich robe strewn and woven coverlet.

This hall, whose roof-tree is supported on pillars, is lighted for the night feasts by torches placed in the outstretched hands of golden figures of youths raised on pedestals. And in the corridor also are seats or couches against the walls on which beds are made up for the stranger and the guest. Coming to details, we find that the doors are made folding, like the Japanese doors of the present day, and that they are fastened by bolts passing through silver rings. Bronze and ivory are combined with the metals already mentioned in the decoration of the pillars and walls, against which hang various armour and musical instruments. There is, too, one kind of ornament which is constantly recurring, for we read of silver and gold studding as a very common mode of decoration applied somewhat indiscriminately to costume as well as to furniture and buildings. The stairs leading to the upper chambers appear generally to start from near the entrance to the hall, and in the larger palaces it would seem that the buildings were arranged in separate blocks round a common quadrangle or court.

The house of PANDARUS would have the usual arrangement of outer court, vestibule, pillared hall, and stairs leading to the private apartments above.

A street in Troy would possess many of these houses more or less capacious, some separated from one another by orchards and gardens, and some doubtless jostled by many rough-built tenements of a different class of inhabitants—assuming, that is, that Troy meant something more than the walled enclosure on the hill of Hissarlik mapped out for us in DR. SCHLIEMANN's book. For the *mise en scène* of the drama before us I am disposed to accept the grander view, and to take HOMER's colouring of things as tolerably literal, after allowing for poetical license.

The notes on the costume will appear next week.

ARCHITECTURE AT THE ROYAL ACADEMY.—I.

THE exhibition of architecture in the present Academy strikes us as hardly coming up to the level of last year. About the same amount of space is covered by drawings, but there are no models; and though last year's average of merit in draughtsmanship is probably maintained, there is no drawing among those which represent works in hand of so important a building as the Christ Church Cathedral, which, it will be recollected, was exhibited in 1874 by MR. STREET, or as Eaton Hall, of which MR. WATERHOUSE sent general drawings. Among designs, again, there is nothing to which the same degree of interest attaches as belonged to MR. BURGESS' models of St. Paul's, for though that artist's designs for the decoration of the metropolitan Cathedral are again illustrated this year, and though Sir GILBERT SCOTT's design for the German Parliament House is also exhibited, still these fall comparatively flat, as they belong to the category of unsuccessful works, and public curiosity is not stimulated in either case by the prospect of the project becoming one day a *fait accompli*.

A large number of well-known architects, who are habitually exhibitors, do not this year occupy the walls, and some of those who are represented have not sent much. Neither MR. E. M. BARRY nor his brother, for example, exhibits, and we miss also such accustomed names as BLOMFIELD, CHRISTIAN, DARBISHIRE, FERREY, GEORGE and VAUGHAN; GODWIN, L'ANSON, NORTON, ROGER SMITH, WHICORD, and WYATT; their places being to a large extent filled by younger men, some of whom exhibit ambitious designs rather than executed works. The number of freehand, pen-and-ink drawings, and of drawings executed in line, seems on the increase; and in many instances the admirable style of draughtsmanship in which MR. STREET, and after him MR. NORMAN SHAW, led the way, has been followed with a fair degree of success. In other instances, however, the drawings exhibited are hard and mechanical, with none of that artistic sense of breadth and truth which MR. STREET never fails to display. Some examples of draughtsmanship of a surprising kind are exhibited, and this is notably the case in the drawings which Sir GILBERT SCOTT and MR. JOHN O. SCOTT have contributed; but there are, on the other hand, a certain number of works with regard to which it is difficult to conceive what merit can have been seen in them to entitle them to admission, unless, perhaps, it may have been their dimensions. If these happened exactly to fit some space which the hanger had to fill up, this accident might possibly have caused obvious demerits to be overlooked; but if this really occurred, it is very much to be deplored.

The place of honour—which we take to be the centre of the long side of the room—is given to Sir GILBERT SCOTT, whose drawing is flanked by two exhibited by MR. BURGESS. The second place—that is to say the head of the end of the room—is given on the other

hand to Mr. BURGESS, and his drawing is flanked by two of Sir GILBERT's; and, strange to say, these six drawings all belong to that category of unsuccessful designs to which we have already made reference.

Sir GILBERT SCOTT's chief contribution (No. 1,604) is a large perspective view of the exterior of the design submitted by himself and Mr. JOHN O. SCOTT for the Berlin Parliament House, and which obtained a premium in the great international competition for that building. The design is also illustrated by a view of the interior of the great dome (926), a section (946), an elevation (954), and a perspective view of the interior of the Hall of Session (965), but no plan is sent. The building, as illustrated, is in a style which Sir GILBERT has, to a certain extent, helped to form—an arcaded Gothic, avoiding mouldings and cusping, and depending chiefly on surface decoration for its enrichments, and on sky-line for its general effect, avoiding buttresses and broken-up outlines on plan, and resembling Italian Gothic rather than northern, in many of its qualities. This Parliament House design has a vast central dome, and so large a number of towers, turrets, and other features intended to tell on the sky-line are added that it has become to a certain extent confused. In the drawings showing the interior a profusion of surface decoration is lavished on every space capable of receiving it; and, while admitting the great beauty of many parts of this vast architectural dream, we cannot but feel that it is a little too formalised, and its style too heavy; that it is Gothic with much of the life taken out of it, and that though Sir GILBERT's Albert Memorial may be regarded as a contribution to the building up of a nineteenth-century style, this design—which in many points displays the same peculiarities as that Memorial—will hardly do much towards fixing the unsettled ideas of architectural designers.

Sir GILBERT SCOTT sends one more contribution, numbered 1,044. This is a restoration of the north transept of Westminster Abbey, and is a fine large pen-and-ink drawing well worthy notice. Here and there we fancy we can trace a little foreign influence at work on the enrichments employed, but we have little doubt that good authority can be found for the whole, and we trust Sir GILBERT's project may be carried out; for the north transept at Westminster, as it at present stands, is full of the most unsatisfactory interpolations, and restorations falsely so called. The beauty of the perspective lines, the skill with which the effect of groups of mouldings is rendered, and the fine drawing of the enrichments with which the central doorway is profusely ornamented, and of the sculpture, combine to render this a most interesting drawing to architects.

Mr. BURGESS' contribution in every way claims the next place. The two drawings of the nave and choir of St. Paul's (995 and 1,006), executed by him for Mr. HAIG, are among the finest specimens of faithful architectural drawing we remember ever to have seen; and the one of the dome (No. 959), though less successful, is still very effective.

These drawings ought, of course, to have accompanied the models exhibited last year; they not only supplement them, but, in many particulars, they correct erroneous impressions which the crude tinting of the model, entirely devoid of atmospheric effect, could not fail to give. To quote only one instance out of many—the tone of the marble-encased piers, faithfully rendered by the artist, entirely differs from the streaky cold whiteness of the same portions in the model, and we can hardly estimate the difference which even this simple circumstance makes in the impression produced upon a spectator unless we had the two side by side. The splendid dignity attained by Mr. BURGESS in this design contrasts strikingly with the poverty and coldness of Mr. PENROSE's careful drawing, No. 939 (by Mr. GROOM), of his project for the same thing. Mr. PENROSE seems to have succeeded in bringing down the vault as much as Mr. BURGESS has contrived to throw it up, and the paving is crude, hard, and inharmonious. A more practical commentary on the rival proposals can hardly be imagined; the one partial, incomplete, staring, and cold, the other rich, harmonious, and complete to the minutest detail.

Mr. STREET contributes two drawings only. One of them, 963, is an unobtrusive coloured drawing of the exterior of the American church now in course of erection in Rome. The style of this building is, appropriately enough, Italian Gothic, and we find it carried out with all the completeness which was to have been expected of the author of "Brick and Marble Architecture." Perhaps the tower is rather more richly treated than is quite in keeping with the simplicity of the western end of the nave, which it flanks; and the proportion of some of the lights is, to our mind, rather too long as compared with their width; but when this has been said we have exhausted our criticisms, and have nothing but praise for the easy, simple grouping, the excellent keeping of the domestic buildings in the rear, and the admirable suitability of the whole to the purposes for which it is required, and the place in which it is to be built. Mr. STREET's other contribution (953), the south-east view of Cuddesdon College, represents the interior of a quadrangle, drawn, with Mr. STREET's usual masterly touch, in pen-and-ink. The principal object is a simple chapel—the memorial chapel to the late Bishop Wilberforce—enriched by a very effective east window, and a singularly picturesque oriel. The masterly ease of the whole composition, and the skilful use made of unobtrusive elements, deserve recognition.

THOMAS GIRTIN.

THE art of water-colour painting, as it now exists in the English school, a companion, and even for special purposes, a rival of oil painting, owes the spring of its modern development to THOMAS GIRTIN, and WILLIAM MALLOD TURNER. The fame of TURNER has been allowed to swallow up the claims of his fellow-student and friend—the "poor TOM GIRTIN" of his warm admiration—so we are glad to hail such effort to reinstate GIRTIN in the knowledge and esteem of art lovers, as is made by the Burlington Fine Arts Club in the exhibition of this artist's drawings, now on the walls of their gallery. We do not propose to review in detail this collection, which, as heretofore, is open only by admission, from members of the club, but shall give a slight sketch of GIRTIN *apropos* of the interest in his work which the exhibition is likely to arouse.

Messrs. REDGRAVE, in their trustworthy "Century of Painters," point out that although in the seventeenth and eighteenth centuries water-colours were used both in England and abroad with many of the technical specialties of practice afterwards elaborated, yet the modern school arose, not from the miniature artists or the Italian landscape painters in gouache, or body colour, but from the "humble art of the topographer." All the earlier men in the list of water-colour landscapists, SANDBY, the ROOKERS, HEARN, WEBBER, ALEXANDER, MALTON, DAYES, BYRNE, tinted and washed in colour on antiquarian and topographical drawings. Artists who could draw and tint were taken abroad by patrons to execute faithful, prosaic transcripts of scenery, buildings, and people. Thus JOHN COZENS, a descendant of PETER the GREAT by the illegitimate son of an Englishwoman, the first painter to throw poetry of feeling and some charm of local colour into water-colour landscape, was taken by BRICKFORD to Italy to make drawings for him. CONSTABLE had a profound admiration for COZENS, and GIRTIN and TURNER copied his drawings. We may name two more predecessors of GIRTIN: PAYNE, 17—18—, who invented the use of a split brush for tree touches, and of rubbing out lights, and JOHN SMITH, 1750—1812, who introduced the tempering of positive colours by neutral greys. In 1773 GIRTIN was born, in 1775 TURNER, and in their hands water-colour painting ripened rapidly into full fruit of maturity; though, correctly speaking, perhaps we ought to say that GIRTIN died while the art was yet in flower, and he himself in his youth, twenty-nine years of age namely. GIRTIN, according to the dubious authority of Mr. THORNBURY, was the son of a rope maker, but had relations of easy means who helped him onward. He was apprenticed to DAYES, the architectural draughtsman, and after doing more work than his premium was worth, refused to fulfil his indentures, and demanded of DAYES that they should be cancelled. DAYES put him in prison for contumacy, but GIRTIN covered his cell walls with chalk landscapes, the fame of which came somehow to the ears of great folk; and the end of it was that Lord ESSEX saw the performances, and, delighted with the artist, bought up the indentures, and released GIRTIN. At the house of Dr. MUNRO, the kindly patron of the artistic youth of the day, GIRTIN and TURNER worked together, copying the doctor's fine pictures, and perfecting themselves under his intelligent supervision. From this period date many of GIRTIN's views of London and its neighbourhood. He afterwards visited the north and west of England, Scotland, and Wales, finding everywhere material for his pencil. Some of these journeys he made in company with TURNER, and the young artists must have mutually stimulated one another to exertion. But GIRTIN, though energetic, was not laborious as TURNER, neither did he seem equally ambitious. He did not exhibit until four years after TURNER's first public appearance, and his first exhibited picture in oil, a necessary stepping-stone into the Academy, dates the year before his death. Many tales are told of his love of low life; how he associated with the colliers in his large passages northwards, and drank with boors in the country inns. But trustworthy evidence tends to confirm that though rough and simple in his tastes, ever frank, and not assuming courtly manners which he did not naturally catch, yet he was a temperate man, with the artist's instinctive love for the beautiful and the refined. For a few years before his death he organised a sketching society at his house, which held good repute, not only artistically, but socially. He went to Paris in 1802, under advice of change of air to set up his failing health; here he sketched buildings and views, but found no renewal of strength, and in November of the same year died. "If GIRTIN had lived, I should have failed," TURNER is said to have exclaimed, out of his belief in the talent that was cut off so early.

We cannot do better than cull from the authorities already quoted—Messrs. REDGRAVE—some notes on the manner and characteristics of GIRTIN. We have seen to what a scant heritage in his own branch of art he succeeded; to COZENS, alone, of all his predecessors, could he have owed much inspiration, and COZENS' elegant, unimpassioned style was essentially opposed to the broad, vigorous manner of GIRTIN. "He resolutely suppressed details, seeking for breadth and largeness of parts;" he sketched much out of doors, but his more elaborate drawings were studied as compositions, "wrought out with much thought and manual exertion." From the careful drawings of his early days, washed with simple shades of positive colour, to the fine scenes in Yorkshire, some of his cathedral towns, and the French sketches, there is a long stride in the dramatic element of composition, and in the varied use of colour. It

was not until the close of his life that he fully understood the value of local colour in shadow, but his palette was quite a different thing to the watery preparations of COZZENS,—different, too, from the rainbow sands on which TENIER learned to play. He was fond of broad and startling effects, of warm light and cool shadow in opposition, and liked to use a special coarse cartridge paper, on which he worked with a wet brush. The clumsy fold in the sheet of this paper, which was doubled and sold in quires at a particular shop at Charing Cross, is now prized by collectors as a proof of genuineness.

The collection at the Burlington Club is very completely representative, and may be said to mark the various steps in the artist's career. We may especially point out the large view of *Durham; Stepping Stones; Bolton Abbey, Conway Castle; The White House, Chelsea Reach; The Ouse Bridge, York; Paris from above Notre-Dame; and the famous Abbotswood pictures*; also a noble drawing, *Guisborough Priory*, as seen in replica, the possession of Mr. G. W. H. GIBBS, the artist's son, and Mr. POYNER. We may point out that as GIBBS had many pupils and imitators, the existence of duplicate examples of some drawings is not surprising, while the unequal execution of others points to the joint work of pupil and master. Mr. G. GIBBS is a principal contributor to the Club Exhibition; also Mr. JOHN HENDERSON, whose father was a good friend to the painter, and Mr. COHEN. The British Museum holds many of GIBBS's best drawings; the South Kensington Museum possesses the celebrated *Rivaulx Abbey*. In the Bedford collection are valuable examples which unfortunately, after the fashion of a previous day, are bound in volumes, and in the present state of affairs permission to detach them could not be obtained. We understand that a move is made at Cambridge to induce the University authorities to unbind from like unavailable holding the GIBBS drawings in their possession.

The Club shows several portraits of THOMAS GIBBS, amongst which the well-known study by OTIS represents just the face we should expect—namely, a face not delicately, but well enough, featured and coloured, with fine open dark eyes, an expression of intelligence and bonhomie, with emotional marks about the full mouth, and a mass of dark hair in rough waves above a broad brow:

PAINTING AT THE ROYAL ACADEMY.—I.

THE Royal Academy Exhibition has been open nearly a week. By this time the artists whose pictures have escaped summary dismissal are grown used to the good or ill fortune that may have pursued them within the walls of Burlington House, and have formed their stereotyped responses to the congratulation or pity which their friends may inflict upon them. The hangers of the year have been told what the daily press thinks of their hanging; and are content to rest and be thankful after accomplishing the ungrateful labour which, let them work with the impartiality of a group of SOLOMONS, is bound to draw as many unuttered curses as outspoken blessings upon their heads. The sixty-three elect have probably also recovered from astonishment at their own magnanimity in claiming to exhibit themselves only an eighth part out of the assembled works—1,408 in number. The public has begun the three months' treadmill through the rooms, and must accept the Exhibition for better or for worse.

Whatever may be thought of the management which has found reason to accept fewer pictures by 187 than last year, and to dispose of these in such a way as to leave unoccupied space, tantalising to the eyes of the "rejected," yet it must be acknowledged that seldom has the leaves been so well distributed throughout the mass as this year. From Room I. to Room X. admiration or curiosity may find everywhere a point to fix upon. Even the water-colour room boasts its special attractions. Whether this Exhibition is better or worse than its predecessors it seems to us idle to discuss. The Royal Academy show is never wholly representative; one season may find a leading man or two in our school, if we may be said to have a school, absent, or present only by slight work; one is a good year with the Academicians, another with the "outsiders;" landscape goes to the wall this time, and high art suffers loss the next. Thus, though the average standard of the Academy Exhibition is probably a good criterion of the existing state of English art, yet one year's show as compared with another can never be taken, for many reasons, to mark a decided step of advance or decadence.

This year, we incline to think, will achieve reputation as the "landscape year." Mr. MILLAIS has, if we may be allowed the "bull," taken another "header" into landscape art, and shows what study of the figure will do to aid the keen observation and confident effort of a painter of romance and portrait, when he takes to drawing trees and hills and clouds. BENT, ALFRED HUNT, HENRY MOORE, CHAS. HUGHES, J. SMART, are at their best, and can be seen well. LAWRENCE is here, and of course VICAT COLE, both taking central places; and Room is green and vigorous as ever.

The old tendency of English artists to paint *genre*, of history, of romance, of sacred legend, of domestic life, again pronounces itself. The word has perhaps outworn its meaning, but it must still for us serve to indicate that something and nothing, that mode of treating a figure subject without style, without the dignity of an especial artistic or moral purpose, which has been the bane of our modern English art. Partly by increased study in foreign schools, partly through occasional special phases of taste, in their extremes bad,

but good, inasmuch as they encourage definite style in work, we seem somewhat emerging from this limbo of negations. Yet many of the well painted and studiously composed pictures of the season, which will gain popular applause, date from the old forlorn region; take Mr. MARCUS STONE's *Sun et Sauf* (130), for example, in the domestic line, or Mr. CALDERON's clever pictures *Refurbishing* (210) and *Les Coquette* (250), or the historic incidents of Messrs. ELMORE, R.A., and E. M. WARD, R.A., with any number more that would fatigue the reader in recapitulation. But some artists struggle out of this magnified insignificance by force of pronounced individual taste. Mr. PRINSEP throws style, and a charm of rhythmic lines about his *Minuet* (125), which give definite character to a trivial subject. Mr. LESLIE uses the simple theme of a girl *Revisiting School* (196) to present an especial beauty of innocent youth and the dainty graces of a by-gone period; other painters, Mr. HODGSON for instance, and Mr. BURMAN less vigorously, give strong local character of physiognomy, manners, costume, and emphasize their subjects into significance. Painters and connoisseurs are fond of the saying that subject is nothing and treatment everything, which is of course an illogical absurdity, that would lead to placing TENIER beside TITIAN: an artist shows the best of his fancy and the measure of his mental calibre by his selection of subjects. Yet behind this affected exaltation of treatment is a truth to which we have been pointing above. Without possessing some definite purpose beyond the mere telling of a story in a pleasing manner, it is impossible for a picture to rise into artistic significance. The aim of an especial scheme of colour, or of an atmospheric effect, may be sufficient to raise it; but some lever we must have; all the better for the work if the artist be also the poet or the philosopher or the historian, and can use his "artistry" to lift men's minds into the higher strata of thought and observation. We shall return by-and-by to the one or two pictures in the Exhibition that assert for their authors right to these last epithets, and shall find ourselves then engaged with the differing claims of Messrs. GOODALL, WATTS, POOL, LONG, BOUGHTON, M. ALMA TADEMA, and Mr. ARMITAGE. The present Exhibition is on the whole depressing to a belief in the English school. But one sign of grace appears on the walls; portraiture this year is decidedly good, in spite of the decadence of Mr. MILLAIS. All great schools have been great in portraiture, and we hail the good work of veterans and youngsters in this line; Mr. RICHMOND, Mr. WATTS, Messrs. WELLS, OULESS, ARCHER, PETTIE, ORCHARDSON, SANT, and LEHMANN have done well and strongly, and we much prefer the elegant portraits of Mr. LEIGHTON to the architectural interior in the large room (215), which does not deserve the honour the painter's name will bring it.

We shall recommence next week with the two contributions of Mr. POYNTER, R.A., the aim of which at a certain dignity in decorative art the hangers seem to have recognised when placing them as pendants either side the entrance of the *salle d'honneur*.

THE ROYAL ACADEMY BANQUET.

THE usual anniversary banquet was given by the President and Council of the Royal Academy on Saturday last. The President, in proposing "The Health of Her Majesty," said he might safely affirm that since the reign of Charles I. no sovereign has occupied the throne who has more consistently encouraged art than Queen Victoria. When proposing the toast of the "Army, Navy, and Reserve Forces," he referred to Mr. E. W. Cooke's painting of the *Devastation*, which is to be presented to Greenwich Hospital by Mr. T. Brassey, as being the first representation of an ironclad that has found a place on the walls, and said that the genius of the talented artist had made quite a picturesque object of the vessel by concealing more than half in smoke, and adorning what remained with a variety of flags. Afterwards he congratulated the Lord Mayor on the great architectural improvements which have recently been effected in the City, especially on that fine street, Queen Victoria Street, making a splendid thoroughfare in connection with the Thames Embankment into the heart of the City. This and the Holborn Viaduct and many other improvements, he said, reflected the highest credit on the municipal authorities.

The DUKE OF CAMBRIDGE, in responding to the toast of the Army, said it appeared to him that artists had a very great affection for the military service, which gave them so many opportunities of delineating gallant achievements. He thought that one of the best pictures in the room in which he was speaking was one entitled the *Roll Call*, and the young lady had again distinguished herself by painting a military picture—*The Square of the 28th Regiment at the Battle of Quatre Bras*. There was also the picture of a foreign talented artist in another room, delineating an historic *Charge at Waterloo*.

Sir JOHN LUBBOCK, in responding for Science, said that one great advantage of science—at least, of the sciences of observation—is that they cultivate the power of seeing? He was sure that men of science derive especial pleasure from the beauties not only of nature but of art; and that none more thoroughly appreciate, none more heartily enjoy the annual exhibitions of the Royal Academy than they did.

Mr. MATTHEW ARNOLD, in returning thanks for Literature, said:—There is no man here, however positive and prosaic, who has not at some time or

other of his life, and in some form or other, felt something of that desire for the truth and beauty of things which makes the Greek, the artist. The year goes round for us amid other pre-occupations; then, with the Spring, arrives your hour. You collect us at this festival; you surround us with enchantment, and call upon us to remember, and in our stammering and imperfect language to confess that we were once Greeks. If we have not forgotten it, the reminder is delightful; if we have forgotten it, it is salutary. In the common and practical life of this country, in its government, politics, commerce, law, medicine—even in its religion—some compliance with men's conventionality, vulgarity, folly, and ignobleness, a certain dose of claptrap passes almost for a thing of necessity. But in that world to which we have sometimes aspired, in your world of art, Sir, in the Greek world—for so I will call it after the wonderful people who introduced mankind to it—in the Greek world of art and science, claptrap and compliance with the conventional are simply fatal. Let us be grateful to you for recalling it to us: for reminding us that strength and success are possible to find by taking one's law, not from the form and pressure of the passing day, but from the living forces of our genuine nature:—

"Vivitur ingenio; cetera mortis erunt."

Mr. DISRAELI responded to the toast, "The Health of Her Majesty's Members," and said:—"Mr. President,—These gatherings always remind me of those annual pilgrimages which are made to some shrine adorned with exquisite art, and in which the pilgrims pay their devotions to the Beautiful. Every year these meetings become more interesting because they further remove us from that period which witnessed the foundation of this institution, and memory lends them its traditionary spell. Modern critics are fond of discoursing on the position of the British School in the history of general art; they have analysed the claims of particular sections of it and the merits of particular professors, but I think that to ascertain the character and the efficiency of an institution, we must take large and general views. Much less than two centuries ago, when England was one of the greatest Powers of Europe, when it produced statesmen and orators like Somers and Bolingbroke, when Marlborough conquered in every field, when we had a poet singing to the nation, who in his style has never been rivalled, when the great masters of composition in prose were Addison and Dryden; England, if it wished to transmit a portrait of any of those heroes, was obliged to import a Frenchman or a Fleming. But now I may say that the British School of Portraiture is acknowledged as among the finest in the galleries and cabinets of Europe, and they point now to our Reynoldses and our Gainsboroughs, our Romneys and our Laurences, as we point to our Vandycks, our Lelys, and our Knellers. There is—I will touch on it only for a moment—there is another branch of art in which I think the English School may be considered unrivalled, and that is generally acknowledged—in landscape, whether they imitate the reality of nature like Ruysdael, or whether they achieve the ideal and give us all the fancy and splendour of Claude without that academic style to which he was too prone. Perhaps I might on this occasion refer to another fact—that in this country, so celebrated for its sense of humour, we have produced a school of artists unrivalled in the world for the manner in which they have treated the common incidents of life, and extracted alike its pleasantness and its pathos. But while I avert to claims which all have acknowledged and all respect and admire, I would here observe that what has most, in my opinion, distinguished of late years the English school is the faculty of imagination; and, Mr. President, you know well that the English artist has developed that faculty under very great disadvantages. He is not favoured by a climate of inspiration. He is not surrounded by a sublime nature. He does not dwell in cities glittering with symmetry, under purple skies. He is not surrounded by human beings whose flashing forms and picturesque gestures stimulate his invention and often afford a happy hint of expression and of grace. For him there are no bannered processions parading the squares and streets of fair cities to animate his fancy amid the fall of fountains and the carolling of sacred bells. No, Sir, he lives in a studio invaded too often by the London fog. If he walks forth for relaxation he wanders in streets of hideous monotony. His living studies are the constable and the cabman. Instead of a procession he encounters a blockade of omnibuses, and instead of bursts of harmony he is greeted by the scream of the Subterranean Railway and the horrible concert of organs and hurdygurdies. And yet this man, by his imagination, by that divine gift alone, can give us a canvas breathing with human passions, in scenes of romantic loveliness and with every accessory of splendour and of grace. Sir, I point to this as a characteristic of the English school; it has, comparatively speaking, been developed during the last quarter of a century; it is one which, in my mind, will assume greater proportions every year, and will ultimately produce works that in the force of their genius will be worthy of the countrymen of Shakspeare and of Byron. But I must apologise, for I got up not to assume for a moment the part of a professor of criticism. When I rose it was for a graver duty: it was to thank you for myself and my colleagues for the great honour you have done us this day—an honour which you have accorded on many occasions to the advisers of the Crown, but which every year is equally cherished. I hail it not as a mere ceremony, but as a public recognition that there are relations which ought to be cherished between the fine arts and the Government of the day. I hail it because, on the part of the Ministry, it gives them an opportunity of expressing as the responsible advisers of the Crown their sympathy with those arts which add lustre to life, and soften and elevate the condition of man.

The ARCHBISHOP OF CANTERBURY, on behalf of the visitors, said: Go to the sheds in the British Museum, in which workmen are engaged in fitting for public exhibition the priceless statues, sculptures, or mosaics, which modern investigation has gathered from the ancient, long-buried stores of distant lands; converse with the workmen there, or go to any great church in course of restoration—say, for example, to St. Alban's Abbey—talk to the workmen—not only to that man who, to his great credit, picked out with wonderful ingenuity the separate stones comprising the shrine of the ancient saint, and put them together with consummate art after they had been shivered to a thousand pieces at the Reformation, and incorporated

into the rough building of the wall, but speak to any mason labouring at such work, and you will find that he has taste to admire some, at least, of the productions of the highest art, and an intelligent appreciation of its laws. Or go to our potteries, squalid and begrimed with smoke outside, but beautiful within from the contents, and see there not only the reproduction of ancient models designed by the men and women who labour there for daily wages, but the beautiful original creations called by them into existence, some of which have not unworthily found their way to this central exhibition of the fine arts of the empire. I know how much this general growth of taste is owing to our schools of design. But I suppose no one will deny that the Royal Academy is the chief motive power in this general revival of the love and knowledge of the noble and the beautiful. And here while others acknowledge the obligations which we owe to the Academy for selecting the beautiful pictures and sculptures which adorn these walls, and to the artists whose successful efforts have attained this eminence, I am reminded of other obligations not less real or widely extensive, which we owe to the less fortunate artists whose productions are not now before us, and to the Academy for stimulating their exertions. Our obligations to the successful are sure to be recognised, and I consider it a great privilege to be allowed to render our thanks to the unsuccessful. These are the men of refined nature, and the delicate, sensitive women, who have devoted laborious days to the pursuit of the art they love, with comparatively slender hope that they will receive the flattering praise which in ordinary minds is so great a stimulus to ambition. They cannot but feel that their time and talents, devoted to some commonplace pursuit, might have enriched them, had they controlled the overpowering instinct which forces them to consecrate their life to art, and if they had turned aside, in spite of the voice of nature, to some of those common and more rude employments which, in this materialistic age, so liberally reward those who labour in them. I would have these artists to take encouragement from the thought that they, too, are in their degree the benefactors of the nation. It is their ill-requited laborious efforts from their very numbers, far more than the triumphs of the successful few, that spread a knowledge and love of art through the community; neither do I believe that their efforts will go unrewarded. They have the great reward of knowing how much good they do, and moreover the field in which they may labour and succeed is, in this prosperous age, almost inexhaustible. Sir Walter Scott, with that common sense for which, except in the management of his own affairs, he was as eminent as for his boundless powers of imagination, of pathos, and of humour, being consulted by a family friend of his, who was an artist, as to the best mode of prospering in his profession, gave this good advice, "Turn your thoughts to the more practical branches of your profession; not every artist can be a Titian or even a Reynolds. Take to decoration, and you will make a fortune." The friend found, in course of years, by following this advice, that the wand of the wizard had directed him to a golden harvest, and very thankfully acknowledged to the end of his days the good advice he had received. I am not going to repeat now the very same advice given by Sir Walter, which might not be palatable to the aspirants after great distinction; but I wish to point this out—not every literary man can hope to write an "Iliad" or a "Paradise Lost," not every chronicler can be a Thucydides, a Tacitus, or a Macaulay; but thousands of literary men, in every age, contribute to the great store of the world's instruction, and are honoured in their generation for the benefits they confer on mankind, without attaining to the highest eminence. Those who in a practical way give themselves to the decoration of great architectural works, and the embellishment of our cities or country palaces, and our innumerable churches, are following, in their degree, and according to their power, the example, not only of Sir James Thornhill, but of Rubens, and even of Michael Angelo, and I see nothing derogatory to their position in pointing out that they may make ample fortunes, while they thus adorn and benefit their generation. I have spoken of such work in our churches, and I am reminded how the sacred profession to which I belong has ever loved and cherished art. The beautiful is a pale reflection of the good and the holy. The especial Church of which I am a minister has ever loved to associate its worship with the beautiful. We may not, indeed, confound religion with artistic enthusiasm, but we endeavour to enlist the service of art as a great help to true devotion. In the name of the Church, then, as well as in that of your many guests generally, I beg to return our best thanks to you, Sir Francis, and the other members of the Royal Academy. The Archbishop, before sitting down, proposed in fitting terms, "The Health of the President, and Prosperity to the Royal Academy."

The PRESIDENT, in rising to acknowledge it, was loudly cheered. He said,—Your Royal Highness, my Lords, and Gentlemen,—On behalf of the members of the Royal Academy, I desire to return their grateful thanks for the compliment so gracefully paid to them by the Archbishop of Canterbury and this distinguished company. At this late hour I must not detain you by any lengthened allusion to the labours of the Royal Academy. I shall only say that as regards the education of their numerous students—a matter in which we are deeply interested—the Academy spares neither expense nor trouble to procure for them every possible advantage for their advancement in the knowledge and practice of their art; and we are rewarded by the belief that among our students there are several of promising talent—not only young men, but young women—which leads us to hope that the fame of the British school of art will be maintained. Since I last had the honour of addressing you the Academy has lost by death two of its members. Mr. Pickersgill, who was taken away at the ripe old age of 93, in his time painted many fine portraits, of which there is an excellent specimen to be seen in the full-length portrait of the poet Wordsworth, in the National Portrait Gallery. The Academy and the public have also sustained an irreparable loss by the death of that eminent sculptor, Mr. Foley, who was taken from us in the height of his fame, at a time of life when we had hoped the country would have been enriched by his works for years to come. You must all be familiar with that fine bronze statue of Lord Herbert of Lea which is placed in front of the War Office. We have several of his works in the Exhibition; one I desire specially to allude to—

a full-length marble statue of the illustrious Prince Consort, an admirable likeness, and a work replete with grace, dignity, and refinement. Foley was a great sculptor, and his early death is a national loss. On the subject of our Winter Exhibitions of Ancient Art I wish to observe that we now find considerable difficulty in maintaining that exhibition annually; and yet we are most unwilling to relinquish what has proved so interesting to the public, and so unquestionably conducive to the promotion and knowledge of art in the country. Happily, Her gracious Majesty, the Queen, who is ever foremost in promoting every object for the benefit of her subjects, has given her cordial support in carrying out the Exhibition of the Ancient Masters by lending from year to year from her public as well as her private galleries works of priceless value. Let me hope her noble example will be extensively followed, and that those noblemen and gentlemen who are kind enough to lend some of the fine works that adorn their mansions will reflect that in doing so they are performing a patriotic act that will largely contribute to the encouragement and promotion of art. I regret that we have not been able to open the galleries containing Gibson's sculpture and the Diploma pictures so early as we anticipated. The cause of the delay was that we found many of the casts from Gibson's sculpture had sustained injury in their transit from Italy. The careful repair of these accidents under the immediate direction of that eminent sculptor, Mr. Calder Marshall, R.A., required much care and time. That and other circumstances, which I need not enumerate, have caused the delay; but all is now nearly complete, and these galleries will shortly be available to the public on certain stated weekly days. In conclusion, I beg to state that the number of works of art sent for exhibition was, in 1873, 4,169; in 1874, 4,481; and, in the present year, 4,800; thus showing an annual increase in the number of works of art sent for exhibition—the number this year being 319 over last year, and 631 over the year previous. I think it well to mention these statistics that the public and the general body of artists may be able to appreciate the difficulties which annually beset the Academy in the selection of works for exhibition. In making that selection it is quite possible that the Council may err in judgment; but I am quite sure they are influenced by the most conscientious and kindly desire to fulfil their onerous and often painful duties with carefulness and justice.

THE BREDEL COLLECTION.

ON Saturday last Messrs. Christie, Manson & Woods sold the collection of cabinet paintings by Dutch and Flemish masters which was formed by the late Mr. Charles Bredel. Several agents of Continental galleries were present. The total amount received for the thirty-seven paintings was 32,402*l.* The following are the principal prices:—

F. GUARDI.

A pair of Views in Venice, with figures, 10 in. by 7 in., panel, 147*l.*

LE NAIN.

Interior, with Two Lads and a Girl Playing Musical Instruments, signed, and dated 1629, 26 in. by 33 in., canvas, 493*l.* 10*s.*

A. WATTEAU.

A Couple of Peasants Dancing before a Cabaret, a Violin Player and three other figures on the right, a *pasticcio*, in the manner of David Teniers, 9 in. by 6½ in., panel, exhibited at the British Institution, 1848, 262*l.* 10*s.*

A Danse Champêtre, a composition of twenty-five figures, a child building a house of cards in the foreground, 25½ in. by 32 in., canvas, described by Dr. Waagen as "of great warmth and transparency, and of singular carefulness of execution," 525*l.*

G. BERKHEYD.

A View in a Dutch Town, signed, and dated 1655, 21 in. by 25 in., canvas, 69*l.*

NICHOLAS BERCHEM.

A Landscape, hilly and broken foreground, bounded by rocky cliffs, trees and bushes, 17½ in. by 15 in., panel, 945*l.*

JOHN BOTH.

A Landscape, with two large trees in the centre of the foreground, rising to top of the panel, with figures, 19½ in. by 25 in., canvas, 1,732*l.* 10*s.*

ALBERT CUYP.

View of a Dutch River, early morning, 14 in. by 20½ in., panel, 325*l.*

A View on the Banks of the Maas, summer's evening, signed, 18½ in. by 20 in., panel, described by Waagen as "an admirable picture of sunny transparency of the master's second and best period," 1,102*l.* 10*s.*

CORNELIUS DUSART.

A Farmyard, with peasants and children, signed and dated 1687, 27 in. by 24 in., canvas, 325*l.* 10*s.*

FRANK HALS.

Head of a Boy with a dog, 12 in., circular, panel, 189*l.*

Head of a Boy with a bubble, the companion, 12 in., panel, 115*l.* 10*s.*

MINDERHOUT HOBBERMA.

A River Scene with trees, signed, and dated 1650, 18½ in. by 25 in., panel. Of this Dr. Waagen says, "The silvery clouds in the clear sky are as fine as any specimen of the master in this line." Bought by Mr. Nieuwenhuys for 3,225*l.*

NICHOLAS MAAS.

Interior, with a girl seated making lace, 1655, 22 in. by 17½ in., panel, 1,775*l.*

FRANCIS MIERIS.

A Young Lady holding a palette and a mask suspended from her neck by a gold chain, arched top, 5 in. by 3½ in., on copper, 1850, 262*l.* 10*s.*
The Enamoured Cavalier, signed "F.M.," and dated 1668, 16½ in. by 13½ in., panel, bought by Mr. Colnaghi for 4,300*l.*

WILLIAM MIERIS.

An Owl on a stand, two figures with a bird-cage in the landscape background, birds hovering above, signed, and dated 1686, 5½ in. by 4½ in., on copper, 250*l.*

ADRIAN OSTADE.

The Tric-trac Players, engraved by Suyderhoef, 12½ in. by 10 in., panel, signed, and dated 1670, 700*l.*

ADAM PYNACKER.

L'Accident du Voyage, morning. Signed, 17 in. by 19½ in., canvas, 136*l.* 10*s.*

RUBENS.

Christ Triumphant over Sin and Death, 28 in. by 19 in., panel, 430*l.*

JACOB RUYSDAEL.

The Ruin: a flat country, with a large ruin, built of brick and plaster, and figures, 18½ in. by 25½ in., panel, signed, 2,310*l.*

GODFREY SHALCKEN.

The Cook-maid, 6½ in. by 5½ in., panel, oval, 63*l.*

JAN STEEN.

An interior, with a large projecting chimney, 17 in. by 13 in., panel, signed on the mantelpiece, 661*l.* 10*s.*

DAVID TENIERS.

Villagers Merry-making, the figures are 8½ in. high; signed, 16 in. by 14 in., canvas, 388*l.* 10*s.*

ARNOLD VAN DER NEER.

Winter in Holland, signed, 22½ in. by 30½ in., canvas, 556*l.* 10*s.*

EGLON VAN DER NEER.

Interior, signed, and dated 1665, 13½ in. by 10½ in., canvas, 525*l.*

D. VAN TOL.

Two Children at an arched open window, blowing bubbles, 10½ in. by 8½ in., panel, 273*l.*

WILLIAM VAN DE VELDE.

A View on the Dutch Coast during a calm, 13½ in. by 16½ in., canvas, 787*l.* 10*s.*

ADRIAN VAN DE VELDE.

A Pastoral Scene: a woody landscape, with a sloping meadow in front, and a sheep lying down; on the left the eye looks through a vista to the distant landscape, a fine clear sky adds lustre to the scene, 13½ in. by 12½ in., panel, signed on the foreground, and dated 1662, pronounced by Dr. Waagen "in every respect one of the finest pictures by this great master," bought by Mr. Bredel for 700*l.*, sold to M. Rutter for 4,515*l.*

PHILIP WOUVERMANS.

View on a Canal in Holland, winter, 12½ in. by 14½ in., panel, 1,281*l.*

A River Scene, spanned by a picturesque bridge and other buildings on the bank, with figures, signed, 13½ in. by 19 in., panel, 630*l.*

The Departure of a Hawking Party, 19½ in. by 25½ in., panel, 609*l.*

JOHN WYNANTS.

A Herdsman with Cattle in a landscape, the figures and cattle by Adrian Van de Velde, signed, 15 in. by 19 in., canvas, 367*l.* 10*s.*

A Boy Angling near to cottages by the brook, 14 in. by 19 in., panel, signed pronounced by Dr. Waagen one of the most beautiful works of the master, 1,890*l.*

"KERAMIC ART OF JAPAN."

THE prospectus has been issued of a new work bearing this title, which will be edited by Mr. G. A. Audsley, architect, and Mr. James Lord Bowles, the President of the Liverpool Art Club. Some time back we were favoured with a view of examples of the plates, and if the remainder corresponds with them, we have no hesitation in saying that the work, when complete, if it does not excel, will at least not be surpassed for beauty by any English book hitherto published. Many of the plates will be in the most elaborate style of chromolithography, others will be printed from photographs by the autotype, and, where it suits best, the photolithographic process will be used. The most beautiful examples in several collections have been placed at the disposal of the editors, including those belonging to the Duke of Edinburgh, the South Kensington Museum, the Dresden Museum, Mr. W. Bartlett, Admiral Keppel, Mr. O. H. Rathbone, Dr. Grimsdale, Mr. Leighton, R.A., Mr. V. Prinsep, Mr. R. W. Edis, Mr. Franks, Mr. Phené Spiers, &c.

At a time like the present, when examples of Japanese art are regarded with so much interest, a systematic work on the pottery is much needed. As the editors say: "No treatise specially devoted to the subject of Japanese art has been written by any of the travellers in Japan, and, indeed, if all the remarks were collected from the numerous works on the country, and the manners and customs of its interesting people, which have a bearing on art, they would produce but a fragmentary and sketchy essay on the subject. No one appears to have visited the country for the set purpose of investigating the arts and art thoughts of its inhabitants; and this fact is much to be regretted, for so great are the changes which modern civilisation and commercial intercourse have lately made and are making every day, that at a very early date but little will be found of the national art work or art thoughts remaining to enrich our present imperfect knowledge." The production must be attended with much expense. We trust that Messrs. Audsley & Bowles may meet with the success to which so noble a work is entitled.

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ILLUSTRATIONS.

WAREHOUSE IN THE OLD BAILLY.

THIS warehouse (covering an area of 3,000 feet, or thereabouts) is being erected from the designs of Mr. THOMAS CHATFIELD CLARK. The ground floor is to be constructed in Portland stone, with the upper storeys in red Suffolk brick facings, relieved with Bath stone window dressings, mullions and shafts, with cornice strings and main cornice at top. The whole of the windows in front will be glazed with plate glass, the ground floor front being fitted with revolving iron shutters. The internal construction is formed with iron stanchions and columns, with strong floor girders, &c.

Special care has been given to the interior planning to suit modern requirements, and capital back lights are provided for. The whole of the works are being executed by Messrs. MERRITT and ASHBY, at a cost of 4,500*l.*, or thereabouts.

MUIR COLLEGE, ALLAHABAD UNIVERSITY.

THE illustration shows detail sections through the large convocation hall and the library of Muir College, and also a general plan of that portion of the college now in course of erection. A general exterior view of the design was given in the *Architect* of June 7, 1873.

The plan of the building when completed will be a quadrangle; the present erections, forming the first half, include convocation hall, library, lecture rooms and professors' rooms, a bell tower about two hundred feet high, and lavatory buildings. The future completion of the quadrangle will provide for a museum, more lecture rooms, and professors' rooms.

The building has on all sides open verandahs fifteen feet wide, and is built of a very fine sandstone, of a beautiful yellow cream colour, from Mirzapore, in the North-West Provinces; also some red sandstone from Agra, introduced externally. Internally, it will be faced with a white stone of fine grain from Sheorajpore. The exterior of the domes will be covered with coloured glazed tiles from Moultan, laid in geometrical patterns. The interior of the hall, library, and lecture rooms, will be decorated with tiles, coloured ornamentation and gilding.

Being for the education of Mahomedans, the introduction of the human figure, or even of birds and beasts, is prohibited, consequently all decoration is obliged to be either geometrical or simple foliations. The type of coloured decoration found at Agra and Delhi in the Taj Mahal and other buildings of the same style in the North-West Provinces will be followed to a certain extent, with, of course, the important difference that colour will be obtained from simple paint instead of inlaid semi-precious stones.

The interior of the dome of the hall will be decorated with large oyster shells on a ground of gold and red, somewhat after the manner of the Octagon Room in the Uffizzi Palace at Florence. The pendentives, which are of a form found in Moslem buildings at Delhi and Bejapore, will have the lines and trefoils accentuated with red and gold.

The shields in the hall will be emblazoned with the ensigns of the Sovereign, the Viceroy, and the Governor of the province (which will always settle the date of the building), and also with the arms of those who have been instrumental in promoting the education of the natives in connection with Muir College.

The window openings will be filled with perforated stonework and stained glass, which will probably be sent from England.

The destructive propensities of the white ants preclude the use of timber anywhere but in the doors, which will have stained glass panels or Venetians.

The large entrance door of the hall is ornamented by a lattice of woodwork in the head, the interstices of which would be filled with coloured glass.

The same style of decoration will be used in the library and lecture rooms, but the dome of the former will be coloured with rings of arabesques on alternate grounds of maroon, white and gold, examples of which method of dome decoration are also found in India.

The floors will be of Indian marbles from Jeypore—white, black, and coloured—mixed with mosaics, red sandstone, and tiles.

The pavement in the hall under the dome will represent the solar system, and in the four corners black outline maps on white marble ground of the four quarters of the world.

The cost of the building will be defrayed partly by the Government of India and partly by subscriptions, several natives having subscribed largely, amongst whom may be mentioned their Highnesses the NAWAB of RAMPOR, the MAHARAJAH of REWAH, and the MAHARAJAH of VIZIANAGRAM, the last having given 10,000*l.*

All the designs for the completion of the building have been prepared by Mr. WILLIAM EMBERSON, architect, of 1 Westminster Chambers, and are being carried out under the supervision of Lieut.-Col. DAVIDSON, R.E.

DESIGN FOR LONG BATON BOARD SCHOOLS.

THIS design was submitted by Messrs. W. C. BRANGWYN and L. A. WITTHALL, Architects, in competition, and was intended to be carried out in red brick, with Ancaster stone bands, mullions, &c., and roofed with green Whitland Abbey slates.

ALFRED GEORGE STEVENS.

IT is with sincere regret that we record the death, on Saturday last, of Mr. Alfred George Stevens, an artist who in one style was unsurpassed in this century, although to the public he may have been known only as the somewhat impracticable designer of the Wellington Monument. Mr. Stevens was born in Blandford in 1817, but his training was in Italian rather than in English schools. He worked in Florence and in Rome, and we believe that his ability was recognised by Thorwaldsen. He returned to England about 1847, animated with the feeling that all that was most worthy of adoption in art, especially in decorative art, was to be found in the works of the Italian masters of the Cinque Cento. We may say, too, without exaggeration, that at least, in the designing of what is known as ornament, his capacity was equal to any artist of that period. In a word, he was a man born three centuries too late. He found in England that people were uncertain as to what was best worth employing in art, and the style most popular was one to which he could not accommodate himself. The late Professor Cockerell entrusted him with some commissions, but (partly, it may be, through his incompetence to recognise the ways of business of his countrymen) in a few years he found it necessary to become a designer for a firm of Sheffield ironmongers. In Sheffield he was an instance of what can be done sometimes through the influence of a man of genius. He was not officially connected with the School of Art, but in a little time he possessed more power over the students than all the authorities at head-quarters, and his designs were considered as of higher value than the whole system laid down for the Schools of Design. The late Godfrey Sykes is often cited as evidence of the value of the Government Schools of Art, but in truth it was to Stevens rather than to the Sheffield school that he was indebted for his knowledge of art.

Some works—they were only grates, if we remember rightly—from Mr. Stevens's designs were exhibited in the International Exhibition of 1861, and the report of the Commissioners refers to them as evidence of remarkable advance in tasteful design and as displaying great beauty and artistic intelligence.

As we have said, Mr. Stevens was born out of time. His peculiar disposition unfitted him for the toil of the present day, when work, regardless of its quality, must be produced with the punctuality of a machine. While pursuing his ideal of perfection, always in anxiety and often under almost overwhelming pecuniary difficulties, he would act with the same disregard of money value, time, or promises which accompanies those higher minds who live in a world created by themselves. His purity of taste, which was carried to the extremest verge of fastidiousness, led him to destroy models and sketches without hesitation, and often the work of weeks would be thrown away in this manner. The world is often richer by such men, but they themselves are always the poorer.

It was to this cause that the delay in the completion of the Wellington Monument was due, and there could be no better arrangement for Mr. Stevens than when his friend Mr. L. Collman, who had the greatest admiration for his powers, came forward at the request of the Treasury and undertook the business management of the whole; he entrusted Mr. Stevens with the artistic part, which had been begun so magnificently, and thus prevented any strange hand from tampering with the design. Under this arrangement Mr. Stevens set to work again with renewed vigour, which was unhappily interrupted for a time owing to an attack of illness. We are glad to know that his part of the work on the monument is now complete all but the casting of one small panel in plaster, and the filling up of a few holes. It will satisfy all his admirers, therefore, to learn that nobody will be allowed to add to or alter his work, and that the remaining portions will be cast in bronze without further loss of time.

He was, perhaps, a little untractable in what he undertook, and latterly his judgment appeared to be rather warped concerning the Wellington Monument; but when it comes to be completed, and the world can judge of its exceeding beauty, they will realise the greatness of the mind we have lost.

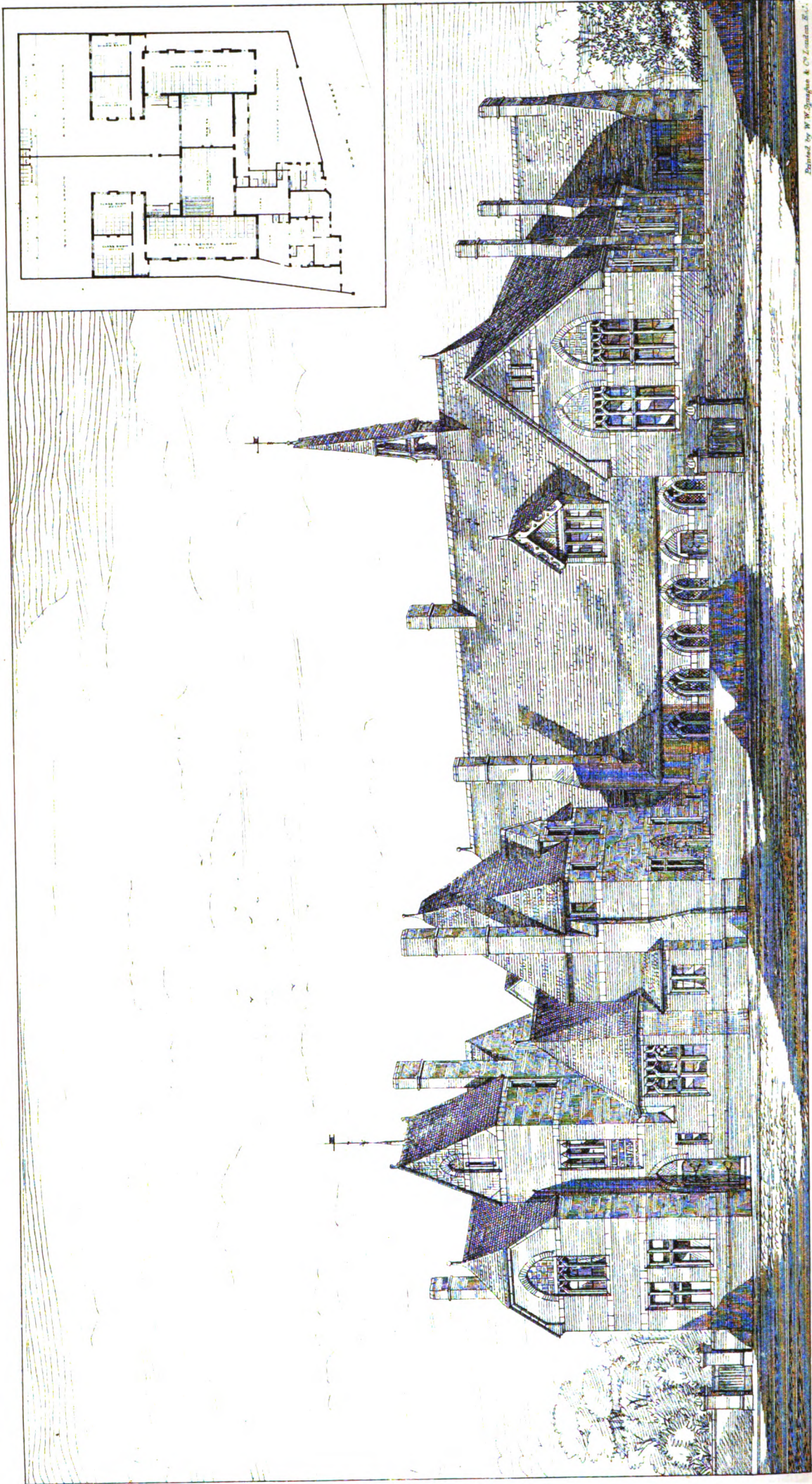
Mr. Stevens was very quiet and modest in his demeanour, and consequently was little known by the world at large; but all who had the privilege of his friendship can bear grateful testimony to his generosity and kindness. He had a few pupils besides the late Godfrey Sykes, viz., Messrs. Gamble and Townroe, of South Kensington, and Messrs. Stannus, Eaton, Hoyles, and Ellis, and by them he was much beloved.

He died at his residence, Haverstock Hill, and was buried on Wednesday at the Highgate Cemetery, his funeral being attended by a few sorrowing friends.

ROMAN REMAINS AT FOLKESTONE.

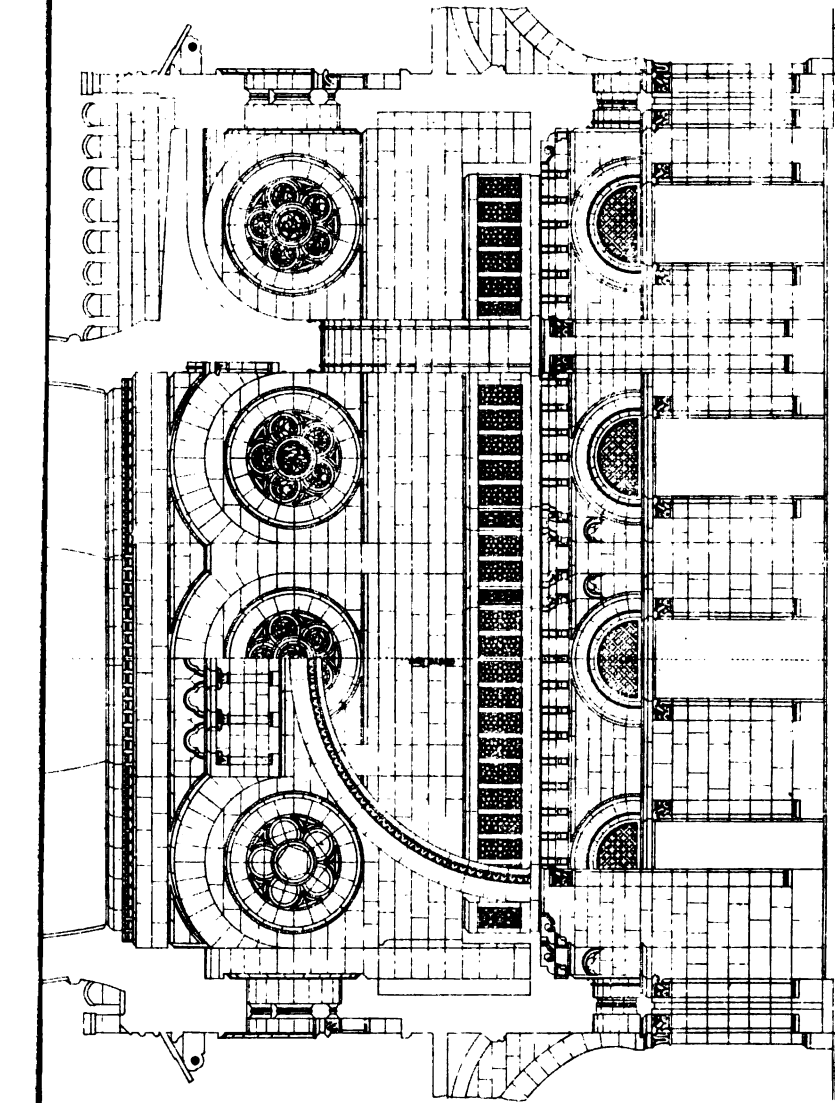
THE *South Eastern Gazette* says that a discovery of much interest to archaeologists has taken place during the past week in the course of the excavations going on in connection with the extension of the Cement Works at Folkestone. The workmen who were preparing for the foundations of the new work were surprised to find a buried rubble wall of about 3 feet in height, whose top reached within 10 inches of the surface. Regarding it as an unmitigated nuisance as stopping their operations, they knocked it down as quickly as possible, when Messrs. Thomas and Minter heard of the discovery, and on examining the remains found them to be of apparently Roman workmanship. The wall was carefully traced, when it was found to enclose a rectangular chamber, about 12 feet in width, lying north and south, with an hexagonal one adjoining at the north end. At the point where the chambers join each other is a deep hole, and in the oblong one are a series of short piers about a score in number, each some eight inches square, and placed about a foot apart. Near was found a jar lid of red Samian ware, a guttus, or vessel for holding oil, and one or two other small articles. There is a difference of opinion as to the nature of the building, some thinking it must have been a small temple, while the general view, broached by Canon Jenkins, of Lyminge, is that the remains are those of a bath.



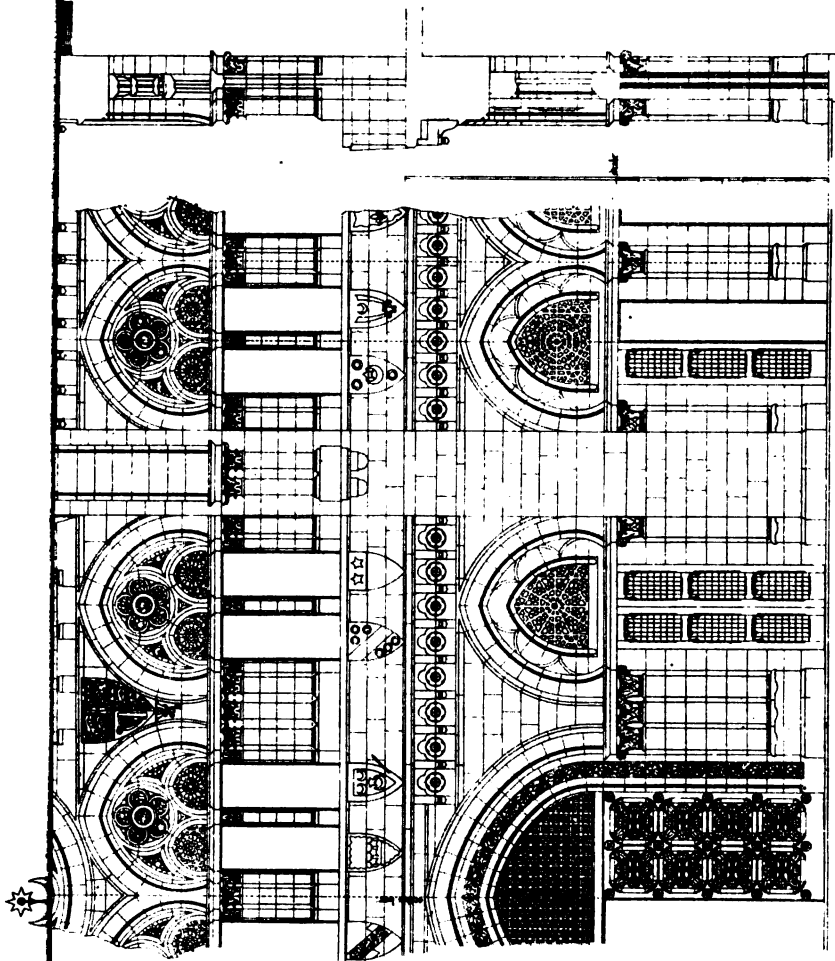


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DESIGN FOR LONG EATON BOARD SCHOOLS.
W. C. BRANCWYN } ARCHITECTS
L. A. WITTHALL }



INTERIOR OF LIBRARY.



INTERIOR OF CHURCH.

Section.





NEW WAREHOUSE, OLD BAILEY.
T. CHATFIELD CLARKE, F.R.I.B.A., ARCHT

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ROYAL INSTITUTE OF BRITISH ARCHITECTS.

Report of the Council to the Annual Meeting.
May 3, 1875.

THE statistics with which it has been customary to fill the opening pages of this report, do not this year call for any special comment, although they afford satisfactory evidence that the Institute is steadily adding to its list of members, and that its annual income seems sufficient to meet not only its working expenses on the scale of former years, but that additional outlay for which the biennial conference and architectural examination, as well as the annual conversazione, have of late years rendered it necessary to provide.

The Council are the more desirous of calling attention to this statement, because at the close of the last official year a contrary impression appeared to prevail, and if the special committee then appointed on the affairs of the Institute should in their report (which has not yet been received) deal less immediately with the question of finance than with those affecting the constitution and external relations of this society, it will probably be because the former, after careful consideration, appears less urgent than was once supposed.

During the past twelve months twelve fellows and twenty-two associates have been elected. In the former class the Council are glad to include the name of Mr. John T. Wood, whose antiquarian researches at Ephesus have won for him an European reputation, and whose valuable services in rescuing from oblivion the site and remains of the famous Temple of Diana, have been deservedly recognised by Her Majesty's Government.

The list of honorary and corresponding members has received a notable addition in the person of M. Emile Boeswilwald, Inspector-General of Historical Monuments in France, and the architect of several important works in the field of restoration.

The obituary of the year 1874-5 contains many names which the Council record with deep regret, viz.:—MM. Auguste Joseph Pellechet, and E. J. Gilbert, of Paris, M. Esperandieu, of Marseilles, and Il Cavaliere Antonio Cipolla, of Rome: all honorary and corresponding members of the Institute. The death of Professor Willis, whose learned contributions to the science and history of Mediæval Architecture placed him in the first rank of English amateurs, will leave a blank not easily filled in our list of honorary members. Among its fellows the Institute will miss Mr. G. E. Laing, Mr. R. Eell, and Mr. George Gutch, who for so many years held the office of district surveyor to the parish of Paddington. To these names must be added those of an hon. member and ex-fellow, Mr. H. E. Kendall, one of the founders of the Institute, also a district surveyor of very long standing and venerable age, and Mr. J. B. Waring, who though he had lately retired from membership, carried with him the respect and regard of his contemporaries. Mr. Waring's pen and pencil were long and usefully employed in the illustration and literature of art, and his exertions in connection with the Manchester Exhibition of 1857, the London Exhibition of 1862, and in the organisation of the Leeds Exhibition of 1867 will long be remembered. In the class of associates the late Mr. F. Atkinson, Mr. A. H. Thompson, of Leeds, and Mr. T. Vaughan, have left many private and professional friends to lament them. This sad but necessary paragraph would scarcely be complete without a brief mention of Mr. R. W. Billings, the talented author of "The Baronial and Ecclesiastical Antiquities of Scotland," and numerous other valuable works on architecture (once an associate of the Institute) who died towards the close of last year.

After deducting the numerous losses included in the foregoing list, as well as the few occasioned by retirement and removal under the bye-laws, the Institute numbers 295 fellows, and 239 associates, or in all 16 more than last year.

The plan which has been adopted within the last few years of issuing in January an estimate of the income and disbursements for the ensuing twelve months has been found useful in guiding the recommendations of the finance committee, and in enabling them to compare, by means of an authentic summary, the financial prospects of the Institute from time to time. The Council are glad to observe that the excess of receipts over current expenses in 1874 was greater than had been anticipated. On an average the income of the Institute may be said to increase at the rate of 60*l.* per annum, while by careful economy certain items of expenditure have been reduced in amount.

Availing themselves of the authority given by the special general meeting in 1873, the Council have sold out 200*l.* the balance of the sum then voted, and strictly speaking, the only portion of capital touched,* in order to repay 190*l.* due to the library fund. With the discharge of this obligation, the last liability of the Institute has been cleared off, and the estimate for 1875, after providing for all ordinary expenses, promises a balance of 189*l.* for special repairs and other contingencies.†

The Council have great pleasure in announcing a bequest of 250*l.* from the late Mr. Thomas Grissell, the well-known and respected builder, who took great interest in the Institute. This sum has been invested in Indian railway stock, and the income derived from the bequest will be devoted, under the terms of the will, to the cost of an annual medal as a prize for drawings illustrating architectural construction.

The Institute funds have been further enriched by ten shares in the Architectural Union Company, representing the value of 100*l.* Of these, five have been presented by our respected fellow, Mr. Edwin Nash, and five by Miss Ashpittel, a sister of the late Mr. Arthur Ashpittel, the founder of the prize which bears his name, and which, at the donor's wish, will thus be augmented to that extent.

It had been hoped that the architectural examination, with which this prize is associated, would have attracted many candidates this year. The

careful revision which its rules underwent in 1872, the increased facilities for study which are offered by the Institute library, and the praiseworthy efforts made by the Architectural Association to induce their younger members to present themselves for this excellent test of professional education, might have been expected to ensure an adequate response. But the Council are disappointed to find that only six applications have been received from candidates in the proficiency class, and nine for the preliminary examination, making the insignificant total of fifteen, or five less than on the last occasion. That this does not result from any want of publicity must be evident from the fact that there has been a large demand for copies of the examination rules; and the Council can only conclude that the standard of ability aimed at by the scheme is higher than that possessed by the average student, or that there is a certain apathy on the subject among those whose interest and co-operation it ought to command. In either case it remains to be considered whether the Institute is justified in maintaining at considerable expense and trouble the organisation of a system of education which seems to be so little appreciated.*

The Council acknowledge with pleasure the frequent donations in money made by individual members and other friends to the library fund, and which amounted in 1874 to more than 60*l.* This accession of means, added to the sum already in hand, has enabled the library committee to expend about 170*l.* in the purchase of books, including ninety volumes of English and foreign works on architecture and decoration, especially of the Renaissance period, with many others relating to Oriental art, in which the library had been hitherto deficient.

Among other gifts may be mentioned a collection of books, pamphlets, and photographs, from Mr. P. C. Hardwick, fellow; also a series of medals struck by the corporation of London to commemorate national and civic events of interest, and presented by Mr. Horace Jones, late V.P., the city architect. Mr. J. Gibson, vice-president, has provided at his own cost a handsome marble pedestal for the bust of Sir Charles Barry, which was mentioned in the last report.

The catalogue of medals, coins, busts, and specimens, has been completed and issued to members, while the collection of those objects has been arranged by the librarian, Mr. Kershaw, so as to be easily accessible for inspection.

The Council desire to renew their request that members will present to the library from time to time drawings or photographs of their principal works, so as to form a series which may illustrate the progress of contemporary art.

It is satisfactory to state that the alteration of hours during which the library is open has secured a larger attendance of students; and that the Architectural Association's colour class has sought and obtained permission to consult the valuable works on polychromy, which form part of the Institute collection.

The library committee have carefully considered the question of providing for the future accommodation of books, and have made suggestions thereon; but at present the Council have only been able to sanction for that purpose the temporary adaptation of the larger bookcases now in the meeting room. During the present year a scheme for an extension of the bookcases will be submitted to the Institute.

The award of the royal gold medal for 1874 is a subject to which the Council feel some delicacy in referring, but which cannot with propriety be omitted from these pages. In the last annual report it was announced with satisfaction that the nomination of Mr. Ruskin for the highest honour which this Institute can bestow had met with approval from the general body of members, and had subsequently been confirmed by Royal assent. It was, therefore, with much regret that the Council, after a long delay, partly occasioned by Mr. Ruskin's absence from England, learnt that it was his intention to decline the medal. The nature of this communication and of the correspondence which then passed on the subject was fully explained in our president's opening address for the present session; but unfortunately the explanation came too late to prevent some ill-judged comments on the matter in the public press.

Her Majesty having signified her pleasure that under the circumstances laid before her a fresh recommendation should be made as to the award of the Royal Medal, the Council decided on nominating the distinguished architect, Mr. George Edmund Street, R.A., for that honour. This nomination was confirmed at a special general meeting convened in August last, and at the opening meeting of the present session Mr. J. L. Pearson, A.R.A., received from the President the Royal Medal on behalf of his friend, Mr. Street, who was unfortunately prevented by a domestic bereavement from attending in person.

The selection of Mr. Edmund Sharpe, M.A., for the same honour in 1875 is one which the Council are pleased to find has given general satisfaction. The long and valuable services which that gentleman has rendered to the history and literature of architecture leave no doubt respecting his claims to a distinction which has hitherto been justly appreciated, and which he would be the last to undervalue. Sir Thomas Biddulph having communicated the Queen's approval, the formal presentation of the Royal Medal will take place at the last general meeting of this session on Monday, June 7.

The number of competitors for the Soane Medallion of 1875, and the excellence of several of the designs submitted, have fully compensated for the unusual deficiency in merit noticeable in the same competition last year.

The Council, in recommending that the first prize should be awarded to Mr. W. Hilton Nash, had great pleasure in proposing the supplementary prizes which have since been awarded at the special general meeting, to Mr. W. Scott and Mr. A. T. Taylor. A similar course has been adopted in the competition for measured drawings, which produced most creditable specimens of draughtsmanship and industry from Mr. James Crocker, who won the first prize, Mr. John F. Hennessey, and Mr. James Neale. The last-named gentleman was also elected the Pugin travelling student for 1875, out of a long list of candidates whose sketches fully maintain, if they

* The previous 300*l.* consisted of accumulated surplus income invested in 1869.

† The sale of stock referred to was not actually effected until January last; but Messrs. Herries & Farquhar, before the close of 1874, placed 300*l.*, the sum about to be realised, to the credit of the Institute.

* The average cost of the architectural examination, including the examiners' and moderators' fees, and printers' bills, advertisements, &c., is about 100*l.*

do not surpass, the usual standard of skill, and among whom Mr. G. Dale Oliver may be mentioned as second on the list.

The want of response to the Essay Prize this year is perhaps due to accidental causes, but the Council trust that members of the Institute will urge upon their pupils the importance of employing the pen as well as the pencil in the prosecution of their studies—an intellectual exercise which, if judiciously practised, is certain to be of benefit, not only to themselves but to that department of literature by which artistic taste is diffused.

The list of prizes for 1875-76 is a full and attractive one. In addition to the Grissell Medal already mentioned, as offered for the encouragement of constructive design, the sum of 40*l.* will be awarded under the terms of the late Sir William Tite's bequest to the author of the best Italian design for a public concert hall. The printed scheme issued for general circulation last year will have explained that the Council are fully authorised to vary the mode of applying the interest derived from this bequest, provided, of course, that the testator's main object—the encouragement of the study of Italian architecture—be kept steadily in view.

The committee appointed to examine and criticise the late Metropolitan Buildings Bill, although they had little time for their work, were enabled to prepare a petition on the subject, which our past president, Mr. Beresford Hope, kindly presented to the House of Commons. A series of resolutions, having been carefully considered and passed at a special general meeting on May 11 last, were communicated in due course to the chairman and members of the parliamentary committee, and circulated among others interested in the subject.

The ultimate fate of the Bill is now as well known as its imperfections, and while the District Surveyors' Association, by their individual exertions and substantial aid, contributed largely to its opposition, it is fair to claim for this Institute some credit for prompt exertions in the same cause, which were none the less serviceable because they were less directly interested.

During the past twelve months four examinations have been held under the Metropolitan Buildings Act of 1855, and eighteen candidates have been examined as to their qualifications for the office of district surveyor. Of these nine passed, and have since received certificates of competency. The Council were glad to observe that, before the late Bill was withdrawn, the Metropolitan Board of Works had recognised the advisability of reinserting that clause under which, for many years past, the duty of conducting this examination has been delegated to the Institute.

A general conference of architects held, for the third time, under the management of a committee appointed by the Institute, took place last year, and was attended by a large number of town and country members of the profession. The programme of proceedings, which were opened by an able address from Professor Kerr, included many topics of interest. Professor Lewis's Paper on the education of architects was followed by a long and useful discussion, while the lecture by Mr. J. J. Stevenson, on the present condition of architectural taste, interested many who have watched with approval or distrust the gradual development of a style of art which is certainly new to this generation. The report of the committee on the employment of surveyors was again brought forward for consideration, but the conflicting opinions which it elicited led to a general conviction that the subject might be postponed with advantage, until some scheme relating to the question of "Quantities" has been prepared in a form more likely to secure unanimity.*

Should the conference become, as seems probable, a biennial event, there is no doubt that it will afford a convenient opportunity for the ventilation of many matters still open to debate, and on which the profession at large should be heard. The free admission of reporters will in future secure a sufficient record of the proceedings in the public press, and thus relieve the Institute from the principal expense which the first two conferences entailed in printers' bills. The cost of each conference, although held for the benefit of the profession at large, and attended by non-members, has hitherto been defrayed entirely by the Institute.

The Council take this opportunity of acknowledging with sincere thanks the active services rendered by the conference committee, and especially by those gentlemen who kindly undertook the arrangements for visits to public buildings in the metropolis. As a result of the conference in 1872, may be mentioned the useful set of rules then drawn up respecting the conduct of architectural competitions. A copy of these rules, together with a letter drawing attention to their purport, is now forwarded regularly to the promoters of every competition advertised, and by this means it is hoped more equitable arrangements will, in course of time, be secured for the organisation of a system which, in itself, is of questionable advantage, but which becomes degrading if unfairly carried out.

In reference to this subject, the Council have heard with regret of recent instances in which architects have actually consented to tender against each other for professional commissions. They trust that, at least members of this Institute will refrain from a practice which cannot but tend to bring their profession into disrepute. It will be obvious that any tolerance of a system which encourages an educated artist to under-bid a fellow practitioner with the sole object of securing employment, must in course of time reduce the practice of a fine art to the condition of a trade, while the only purpose which can be urged in justification of such a course—the increase of personal emolument—is likely, in the long run, to be defeated.

The interest and variety of subjects selected for sessional Papers during the past twelve months have attracted attention beyond the walls of the Institute, and will certainly allay the apprehension that there is any deficiency of material for discussion or want of ability in the authorship at command. It has been remarked that the attendance at ordinary general

meetings is less now than in former years; but it would be incorrect to ascribe this to a falling off in the quality of the lectures provided. Many other reasons, as for instance the more frequent issue of sessional Papers and their reprint elsewhere, might be assigned as a cause,* yet to exclude reporters from the evening meetings, or to revert to the former plan of deferring the issue of the Institute Transactions until the end of the session, would be certain to create great dissatisfaction in some quarters. When it is remembered that the Papers are followed by discussions which depend for their interest on the personal attendance of members, and that they are frequently illustrated by drawings and diagrams which add greatly to the artistic and scientific value of the information conveyed, the Council trust that members will in future make a point of being present as often as possible, as a mark of respect both to the lecturer and the Institute.

On their part, the Council can but do their best by officially inviting to attend the reading of each Paper such members or visitors as are likely to be most interested in the subject announced for discussion. This has of late years secured the presence and remarks of those who speak with the advantage of special information; and as every speaker is allowed the opportunity of revising the report of his remarks before they are officially published, the Council trust that the literary value of the sessional Papers will be gradually enhanced.†

Among the subjects brought forward for discussion during the present session are two which deserve especial notice. A series of articles written in a plausible but captious vein had recently appeared in a highly influential review, disparaging all contemporary architecture, and attacking the work of individual architects. As a corporate body, the Institute, even in the interests of the profession, could of course take no notice of the insult. But the reading of Mr. W. H. White's Paper "On the Hope of English Architecture," and the essay of Mr. J. J. Stevenson, "On Master Workmen and Architects," afforded excellent opportunities for a public reply to what may be fairly called fallacious argument based on very questionable authority.

The return of Mr. J. T. Wood from Asia Minor enabled him to fulfil an old promise of reading a Paper "On the Temple of Diana at Ephesus," in which he briefly laid before his audience the progress and result of researches extending over a period of ten years. The meeting heard with regret that an undertaking of such importance, on which Mr. Wood, in addition to the Parliamentary grant allowed, had expended energy and private means, was likely to be abandoned for want of national support. A resolution was passed in which it was referred to the Institute committee for the conservation of ancient monuments to consider the propriety of memorialising Her Majesty's Government with the view of soliciting its substantial aid towards continuing the researches at Ephesus. Under the advice of this committee a memorial to that effect will shortly be presented.

The other Papers read since the last report was issued, and in addition to the President's interesting address at the commencement of the present session, are as follows:—

"On Town and Country Schools," by T. Roger Smith, Fellow; "On Vaulting" (Institute Prize Essay, 1874), by T. H. Eagles, M.A., Associate; "On the Orwell Park Observatory," by J. M. Anderson, Fellow, with Supplementary Remarks by W. Airey, Esq., C.E.; "The History and Development of Gothic Vaulting," by G. H. West, M.A., Associate, with a Communication on the same subject from E. Sharpe, M.A., Fellow; "On the Restoration of the Lodge at Sheffield Manor," by C. Hadfield, Fellow; "On Public Abbatoirs, with special reference to one recently erected in Manchester," by A. Darbyshire, Fellow; "On New or Revived Processes in Decorative Art," by G. T. Robinson, Contributing Visitor; "On Iron as a Constructive Material," by C. H. Driver, Fellow; and "On the Church of St. Francis at Assisi," by J. Beavington Atkinson, Esq.

The numerous attendance, not only of members but of visitors, at the Institute Conversazione last year proves that it has retained its popularity among the events of the session. Although the size of the rooms available for the reception of guests is small as compared with those occupied by wealthier societies, this annual *reunion* is nevertheless marked by a social and friendly character, which might be missed if it were organised upon a larger scale. The Council beg to renew their thanks for the interesting contributions of pictures and other works of art lent for exhibition on the occasion, and they trust that the individual exertions of members will enable them to render the Conversazione of 1875 as attractive as the last. It has been thought advisable that the Institute Dinner should only be repeated if an adequate number of members signify their intention of being present, and as the arrangements must be made in good time, this should be done without delay, in order that due notice may be given to those distinguished guests who may be invited by the Council.‡

The claims of the Architects' Benevolent Society upon the support of the profession have been so frequently brought under the notice of this Institute, that but little can be added to an appeal which ought not to require renewal or justification. Yet unfortunately the fact still remains, that out of a body of architects numbering nearly 600 members, only a small proportion still contributes to a charity which should commend itself to all who can afford even the smallest annual subscription. The income derived from such a source would enable the administrators of the fund to relieve those numerous cases of distress that are sure to arise

* Notwithstanding many requests that the official publication of sessional Papers may only be anticipated by the press in an abstract form, they are frequently printed *extenso*, and in some cases have been scarcely accompanied by any acknowledgement of the source from which they are obtained.

† In reference to the complaints which have occasionally been made that the chair is not taken with more punctuality by eight o'clock at general meetings, the Council now meet at half-past six instead of seven o'clock, and not unfrequently find even an hour and a half barely sufficient for the duties of their office, which the extended relations of the Institute have necessarily multiplied. This early attendance at Council meetings prevents many of its members from remaining for the general meetings which follow immediately after.

‡ Members desiring to attend the Dinner are requested to communicate at once with the Secretary.

* The resolution passed by the Conference in 1874 was—

"That the best thanks of the Conference be given to Messrs. Cates and Rickman, for their care in the preparation of their report; that the report be received, and that the Council of the Institute be requested to bring the matter before a future meeting of the Conference, when further information on the subject may be accessible."

among the followers of a profession which is highly lucrative to a few but fluctuating and precarious to many. Once more, therefore, the Council venture to beg on behalf of a deserving and well-managed institution the substantial aid of all to whom this report is addressed.

The appointment last year of a special committee on the affairs of the Institute arose from a cause of which the immediate urgency may be said to have disappeared. Many questions however of reform, other than financial, will no doubt present themselves for consideration, and the Council trust that, where they are really needed, they will not share the fate of a somewhat similar inquiry in 1849. If any delegates beyond the ordinary governing body can be safely intrusted to propose measures for the improvement or remodelling of the Institute, it may be supposed that one composed of a fair proportion of the oldest and youngest members might safely undertake the task.

Few will contend that the Institute, established forty years ago, when the conditions of professional practice and the nature of professional education were very different from those of the present day, has, even by means of subsequent modification in its rules, reached a point of excellence which needs no further development, and it is natural that the junior members of the Society should be most alive to its presumed deficiencies in respect of those objects which affect their early training and future prospects. On the other hand, it is certain that on all points involving material change in the constitution of the Institute, the terms of its membership, or the rules of professional practice, the age and experience of the senior Fellows must render their opinion invaluable. The necessity for radical reform is more easily urged than its ultimate expedience can be tested, and it is for this reason that the Council are glad to know that the committee above-mentioned include men who have watched the progress of the Institute from its earliest days, and have held some of the most honourable and important of its offices.

It is only those conversant with the executive functions of a society who can be aware of the marked divergence of opinions which exists on many questions respecting its policy and management. Party spirit, actuated by special motives, may in turn magnify or depreciate the importance of this or that scheme, which on one side is considered of paramount importance, while on the other it is treated as too insignificant to discuss. The architectural examination, the employment and position of surveyors, the question of competitions, and the rules for professional practice, are all matters on which widely different views have been expressed, and no doubt with excellent reason. But it is a mistake to suppose that the Institute can ever be modelled on a plan which will realise the precise ideal of a particular clique, who keep one or more objects solely in view, forgetting that broader purpose for which the Institute was founded, viz.—to promote the advancement of a special art, and to maintain the integrity and protect the interests of those who practise it.

If members would bear this purpose in mind, and remember that it will be most readily effected by a steady loyalty to the Institute both within and outside its walls, there need be no fear of its failing to retain its long-established position as the representative body of a profession whose status and welfare are of far higher moment than the pursuit of party aims and individual crotchets.

ART PRODUCTIONS IN CAST IRON.

ON Tuesday evening Mr. W. G. Larkins, the Secretary of the Society for the Promotion of Scientific Industry, read a Paper before the Society at Manchester on "Some Art Productions in Cast Iron." He said that in the Exhibition of 1851 the Royal Prussian Iron-foundry exhibited a number of small groups of cups and vases in cast iron, some of which were very artistically decorated by means of gilding and silver let in in the fashion of *niello*. A similar small display was made in 1862, with a further development in the form of jewellery. Mr. Alfred Taylor, the reporter on the class, treated the castings with great contempt, and instead of seeing a new means of producing works of art, he spoke of them as curiosities, calling them "very remarkable," but adding: "We believe the energy of those establishments is gradually being turned to the production of more important works than delicate objects of taste, for which the material itself is not well adapted." That very utilitarian view it was charitable to put down to a want of knowledge of the method of production of those castings, for no one would be so bold as to deliberately give an opinion that the worth of a work of art was limited to the worth of the material used. In the year 1867 inquiry called attention to those castings, but nothing further was heard upon the matter till the display at the Vienna Exhibition two years ago once more gave an opportunity of drawing attention to the adaptability of iron to art purposes of the most delicate kind.

To those who were only accustomed to the casting of iron in large masses in the manner usually followed in this country, such an idea might perhaps seem still to be impracticable. They knew that a casting fresh from the mould had a very irregular surface, and that it had either to be scraped and polished by hand or put through a planing machine until it had the requisite smoothness. Now it would be readily seen that any such scraping or planing or even polishing of the casting of a work of art would utterly destroy its value, and its excellence would fade with every application of the tool. But when he told them that the specimens on the table were practically as they left the mould, and when they saw the faithful reproduction of the marks of the tool of the master hand that executed them, they would agree at once that every objection on the score of inadaptability of the metal for the purpose had been successfully surmounted. The only other objection that anyone not knowing the subject would make to the castings would be as to their appearance; still he thought it would be admitted that they did not compare unfavourably with bronze. The castings shown at the Vienna Exhibition were similar to those shown on the table. They were chiefly reproductions of objects of the Roman period of the middle ages and of the Renaissance. Many of them were copies of well-known works, and some of them were of special design suitable for the purpose. In giving the reproductive arts their just due, he might be allowed to point out that while educating the public taste they also afforded to art workmen

an opportunity of studying the great creations of their fellow-craftsmen of the past. In this latter matter the workmen of this country were very heavily handicapped. Where could they turn to get that help that the French or German workman could obtain? To the South Kensington Museum alone, and it was much to the credit of the authorities of that institution that, failing their being able to get the best actual specimens of art, they had fallen back upon reproductions. Manchester ought to have a museum of that kind, so ought Birmingham, for the great industries of both these centres had very close relations to art, and were dependent very largely upon it. If there were a building in Manchester filled with the best forms of ironwork, we should see less of the monstrosities in that metal which render our streets and buildings hideous.

The scrupulous exactness with which the old masters executed their work, an exactness that did not admit of neglect even in the smallest and least important detail, caused great difficulties in the reproduction of such works—difficulties which were especially great in iron castings on account of the impossibility of the parts being united together by soldering. But notwithstanding those disadvantages the problem had been solved, and in such a manner that iron castings might be substituted for electrotypes productions, combining as they did greater strength with equal fineness, while, being cheaper, they might certainly be preferred. Those were results which had been achieved through continued exertions with the view of cultivating pure art in the production of iron castings, and it was very desirable that those exertions should be continued by future iron-founders.

Mr. Larkins then gave a short history of the Ilseburg Ironworks, from which he had obtained a number of splendid castings exhibited on the table, and spoke at length of the difficulties which had been overcome in certain foundries in producing an artificial moulding sand suitable for casting. He regretted that he was not able to inform the meeting as to the subjects of many of the castings he had produced; but he directed especial attention to certain friezes, which were admirably adapted to the decoration of furniture. The price of the works was, he said, in general terms about one sixth the price of similar articles in bronze. Looking at all those facts, he hoped they might help to introduce into this country a hitherto unrecognised source of production of some of the best specimens of art metal work.

COMPETITION IN IRON CONSTRUCTION.

DISCONTENTED workmen at home and competition from abroad have during the last few years affected all branches of work connected with the iron trade in England beyond all other trades. A new instance of the difficulty of carrying on business under such circumstances is revealed by the last report of the Fairbairn Engineering Company (Limited), which was formed to carry on the business at Manchester founded by the late eminent engineer Sir William Fairbairn.

According to this document, it appears that the past year's working has resulted in the loss of 9,874*l.*, and this has been mainly incurred in connection with one large contract. Competition, the report says, has been keener than ever—so keen that offers had been sent in and accepted, sometimes as much as 20 per cent. below the prices at which the company was prepared to undertake the work. The relations with the workmen, moreover, had in no wise improved; wages were higher, and less work was done for them. Already foreigners were taking no inconsiderable portion of the work. Under those circumstances the Directors honestly leave it to the consideration of the shareholders whether, before greater mischief is done, it would not be the wisest plan to abandon a business which the present Board do not see their way to carry on profitably. The Board recommend that this course should be adopted, and that the freehold land and premises of the company (which most competent valuers had recently reported as being worth considerably more than represented in the balance sheet) and the other assets of the company should be realised as speedily as possible.

The prospects of the shareholders when the company started were sufficiently encouraging, and it must be deplored that an establishment so associated with the history of modern engineering in England is thus likely to be summarily closed.

THE TEACHING OF DRAWING.

THE annual report of the syndicate of the University of Cambridge on the local examinations gives some notion of the manner in which drawing is taught in a large number of English Schools. Instead of proposing that they should copy some nice smooth lithographs of the type they were most likely accustomed to in what are called "drawing-books," or the inane subjects admired by popular drawing masters, the examiners set a few models before the candidates, and the result not merely tested the knowledge and skill of the pupils, but made several faults too evident. The report states that many candidates drew without observing the most obvious effects of perspective, and many drew by rote; having been told that lines in certain relations appear to converge, they drew them converging with a rapidity much greater than the lines could have appeared to do in the model; while curved forms were drawn, not in imitation of those in the model, but through a series of points ascertained by auxiliary constructive lines which should not be used in the practice of drawing, although they are of use in the hands of a teacher when explaining the perspective changes in the appearance of objects. No such methods should be allowed to supersede the watchful observation and careful comparison of the direction of lines or contours, by which alone they can be well drawn. These remarks apply not merely to the junior but in a modified form to the senior candidates as well. As the pupils in the examinations come, we believe, mainly from the better class of schools, or rather "academies," the examiners' report becomes still more unsatisfactory, as indicating defects which in the majority of instances have been acquired at no small cost to parents and guardians.

SOCIETY OF ENGINEERS.

At the meeting of the Society of Engineers on Monday evening, Mr. J. H. Adams, President, in the chair, a Paper by Mr. Eassey Sporn, on "The Use of Paint as an Engineering Material" was read.

The author, in the first place, considered the necessity for the use of paint, and then noticed the composition and characteristics of the pigments usually employed by engineers. White lead, he observed, should be of good quality, and unmixed with substances which may impair its brightness. It is usually adulterated with chalk, sulphate of lead, and sulphate of baryta, the latter being the least objectionable. Zinc white is not so objectionable as white lead, but is dry under the brush, and takes longer in drying. Red lead is durable, and dries well, but should chemical action commence, it blisters and is reduced to the metallic condition. Antimony vermilion was suggested by the author as a substitute for red lead, and its qualities enlarged upon. Black paints from the residual products of coal and shale oil manufacture, and oxide of iron paints are generally used for ironwork, for which purpose they are peculiarly suited. Allusion was also made to anti-corrosive paints, and to those containing silica. Referring to the oils used in painting, the author stated that linseed oil was by far the most important, and that its characteristics deserved careful study. It improves greatly by age, and ought to be kept at least six months after it has been expressed before being used. It may be made a drier by simply boiling, or by the addition of certain foreign substances. Nut oil and poppy oil are far inferior in strength, tenacity, and drying qualities to linseed oil. The author noticed the driers employed, and alluded to the properties and means of testing the purity of spirits of turpentine. He then dwelt at length upon the mixing and practical application of paint to new and old woodwork, the preservation of cast-iron by means of Dr. Smith's pitch bath, and the cleansing, painting, and care of wrought-iron structures. He stated that when used under proper supervision no better protection could be found for iron-structures than oxide iron paints. He concluded by observing that the real value of any paint depended entirely upon the quality of the oil, the quality and composition of the pigment, and the care bestowed on the manufacture; and that the superiority of most esteemed paints was due to these causes rather than to any unknown process or material employed in their preparation.

EXHIBITION OF APPLIANCES FOR THE ECONOMY OF LABOUR.

THIS exhibition, which is being held under the auspices of the Society for the Promotion of Scientific Industry in Manchester, will be opened on May 14 by the Earl of Derby, president of the society; and the opening address will be delivered by Mr. John Anderson, LL.D., late the superintendent of machinery to the War Department. The exhibition will contain a very fine collection of engineers' tools, wood working machinery, and other appliances, as may be gathered from the fact that Sir Joseph Whitworth & Co., Sharp, Stewart & Co., Kendall & Gent, Smith & Coventry, B. and S. Massey, Furness, of Liverpool, and other firms of equal eminence are among the exhibitors. The second division is devoted to domestic contrivances. A large number of gold, silver, and bronze medals will be awarded, and Messrs. Richard Peacock, of Beyer, Peacock & Co.; John Robinson, of Sharp, Stewart & Co.; William Mather, Dr. Angus Smith, W. H. J. Traill, Professor Osborne Reynolds, and John Leigh, F.R.C.S., are the judges. The exhibition building is a fine structure, built on the same principle as the one last year, and it covers an area of over 50,000 square feet. About a dozen annexes for special purposes are attached, and not only will all the machinery be in motion, but the stoves, cooking ranges, gas making apparatus, &c., will be shown in action.

THE PARIS SALON.

A FRENCH correspondent of the *Times* states that this year's exhibition in the Palais de l'Industrie is interesting, not only on account of the remarkable works which it contains, but from an artistic point of view it becomes so as much by its faults as by its merits.

As a whole, it marks in a very emphatic way the efforts more or less happy or more or less violent which are being made by modern artists to break away from the rules and traditions of former schools. It has in its faults as well as in its merits a sort of character which proves that the good or bad qualities of the works exhibited are neither the results of accident nor of individuals, but the consequences of the action of a party which aspires to found a school. One thing which strikes one on first seeing the pictures is a want of light. It is apparent in all these pictures, even in those which denote the happiest effects of colouring. There is a general greyish tone, as if to temper the brilliancy of the colouring and to subordinate the qualities of the artist, in order to elevate, not the drawing or the point of the picture, but the thought raised by it—the imagination and the abstract conception. A second general characteristic of the exhibition is a premeditated contempt for making a picture a complete *ensemble*, of which every detail converges towards the same object, and which forces the spectator to fix his attention on one particular point. The larger portion of the works exhibited are not clear in their ideas; accessories are not always either consequential or necessary, and the blanks in the plan of execution are, as it were, filled in haphazard. At the same time, most of the pictures denote very remarkable qualities of drawing and of vigour. Contrary to the first impression which the want of coherence in the whole picture produces, each detail evinces most complete labour—a struggle and often a victory of will over the difficulties of art. The pictures are for the most part conscientious works, and even where faults exist they are purposely introduced, and are to be attributed to mistaken ideas and not to negligence or carelessness. In fact they are subject to the modern malady of painters who wish to make something new and to correct the traditions of former days.

The correspondent of the *Standard* says the general impression is that

the exhibition is decidedly below the average. There are fewer "official" pictures, and as the State is about the only customer for historical painting on a large scale, and the State has no money to devote to the purpose, the consequence is that cabinet works, suited to the size of private houses, the dimensions of which in Paris are not palatial, are most prevalent, artists like other people have to accommodate themselves to the law of supply and demand, and stick to cabinet works or landscape—a style of art in which neat-handedness goes a long way, and in which a great deal short of genius can create a pleasing impression. What is called *la grande peinture* is not unrepresented; but the specimens which the jury have admitted are certainly not pleasant to look at.

ST. BARTHOLOMEW'S CHAPEL, ROCHESTER.

THE committee formed to secure the restoration of the ancient chapel of St. Bartholomew, Rochester, built by Bishop Gundulph early in the twelfth century, have addressed an appeal to the public for funds to secure the restoration of the edifice, which is so full of antiquarian interest. The council of the Kent Archaeological Society have expressed their hope that the ancient portions of the building may be carefully preserved. The chapel has been visited recently by several eminent archaeologists, and Sir Gilbert Scott has written to the committee as follows:—

"I trust that the doubt as to whether the venerable remains are worthy of being restored will never be suggested or thought of, for the chapel is a precious archaeological and historical relic, the preservation of which is of the utmost importance. It will be best preserved by being rendered thoroughly useful, its dilapidations and mutilations thoroughly made good, and the entire structure rendered sightly and pleasing. The character of the architecture agrees with the period to which it is assigned, viz. the reign of Henry I., early in the twelfth century. The plan of the chapel seems to have consisted of a nave, chancel, semi-circular apsidal sanctuary, and north transept. Two peculiarities are noticeable—the first is not infrequent in early Norman churches of small size—viz., that the apse is not merely the rounding of the end of the chancel, but is a distinct feature, having a stone domical cut off from the chancel by an arch; the other peculiarity consists in the transept abutting on the chancel instead of on the nave. A sedile has been preserved, which was inserted in the respond of the sanctuary arch in the thirteenth century. The building, as we now see it, is in a sad plight, its condition being due less to the action of time than to the erection of dwellings around and partially within the chapel, the walls of which were cut into for windows, fire-places, and other recesses. An ancient though not original oak roof, of framed and braced rafters, remains over the chancel, now concealed by a flat plaster ceiling. The apse roof is also ancient. The windows in the south side of the nave are very curious, having flat lintels of oak instead of semi-circular arches, as is usual. The ancient quoins at the south-west angle remains, showing the original extent of the nave."

Sir Gilbert Scott estimates the cost of the proposed restoration at 1,500*l.*, with a further sum of 400*l.* for new internal fittings.

NOTES ON NOVELTIES.

Heap's Patent Earth Closet.

It is quite unnecessary to argue the question as to whether dry earth or charcoal are good deodorisers; their value as such is universally admitted. The advantages possessed by the earth closet as compared with the water closet are also tolerably well known. But the value of the earth closet depends, in a very great measure, on the construction of the apparatus for distributing the deodorising material. Mr. Heap has invented three or four different closets for use with the earth system; they are each equally simple and effective, and have won for their inventor six silver medals and one gold medal. The invention consists simply of the ordinary closet apparatus, only that by the pulling of the handle a quantity of earth is discharged and thoroughly distributed. The apparatus can be made self-acting by the depression of the seat, which is simply counterbalanced by weights, and has no springs to get out of order. Mr. Heap is also the inventor of a self-acting closet and cinder-sifter combined. But we cannot recommend the use of ashes for closets. There can be no doubt that ashes are not a good deodorant. The simplicity of construction reduces the price of the Heap's Patent Earth Closets to a figure which should bring them within the reach of all classes of the community. The inventor and patentee is Mr. F. J. Heap, of 1 City Road, Manchester.

Constantine's Patent Convolted Stove.

The New Royal Exchange at Manchester has been warmed and ventilated during the past winter by means of two of Constantine's Patent Convolted Stoves, and we learn on inquiry that they have given great satisfaction. The stoves in question are constructed as follows:—The ash-box forms a base upon which are built up a series of nearly flat iron arches; each is deeply grooved and forms a chamber, from the top of which the hot gases are delivered into a horizontal box, and the smoke is conveyed from this box by a single pipe to the chimney. The iron arches or convolutions are separate castings, each one is itself forming a moderate-sized stove. They are joined together by a peculiarly constructed joint, which allows of a considerable amount of expansion and contraction. Between the fire and the top of the stoves there are introduced slabs of fire-clay, which have the effect of equalising the heat, and preventing the direct escape of the flame and hot gases into the horizontal box and thence into the chimney. The flame and hot gases are projected by means of these slabs into the convolutions, and thus the whole of the heating surface is equally affected. The two stoves fixed in the Royal Exchange, Manchester, weigh about 4½ tons each, and the radiating surface amounts to more than 800 superficial feet. The dimensions of each stove is as follows:—Length, 6 feet; width, 4 feet 9 inches; and the height 6 feet. The manufacturer and patentee is Mr. Joseph Constantine, of 23 Oxford Street, Manchester.



The Suggested Union of the Institute with the Association.

SIR,—Will you allow me to lay before your readers a few words in explanation of the facts referred to in Mr. Robins' communication of last week. The committee for the "affairs of the Institute," on which I have the honour to sit, will, it is hoped, be productive of good not only to the Institute, but to the profession generally. It is, of course, too early to divulge the proceedings of that committee in public print, but I would submit that the existence of such a committee offers an opportunity which may not occur again of looking at the relative positions of the Institute and the Association, and—putting aside the consideration of the advantages which each society may separately possess, of determining whether it is or is not right that an honourable profession like ours should have one representative society, to which all its members should naturally seek to belong, while the admission to it should be carefully guarded by strict qualification—the Association is such a successful society that one cannot be surprised at the idea of a fusion with the Institute being, at first sight, scouted by its members. I will therefore enumerate the objections that have been raised to such a fusion, and try to prove that after all the advantages would be greater than the losses.

Firstly, the separate existence of the two societies is said to introduce an element of fair rivalry which tends to keep up the life of each. If the two bodies consisted each of practitioners only, or each of students only, one could understand such a rivalry; but this is not the case. The bulk of the Institute are practitioners, the bulk of the Association students; and although some members of the Association contrive to take part in its discussions after they have grown up into practice, it is by no means certain that their action in this manner—however valuable in itself—does not deter the younger members from coming forward and testing their powers of speaking at the general meetings. I am not forgetting Mr. Blomfield's golden words that "architects should never cease to be students," but this would only be tantamount to calling the members of the Institute "students in practice," and those of the Association "students not in practice," and would not affect the substantial distinction between the two bodies. Any rivalry, therefore, between them should be impossible.

Secondly, it is feared that the members of the Association would lose, by becoming a portion of a large body, that independent life and that ambition to obtain public reputation which they now possess. It appears to me that the kind of reputation which is most valuable to a student is that which he gains amongst members of his own profession, and that it is also the most profitable when he seeks employment as an assistant. Therefore it is more to the advantage of a student to gain reputation in a large body which should contain the whole profession, than in the Association where the practitioners are a minority.

Thirdly, it is feared that the juniors would get snubbed by the seniors in the combined society, and I suppose that, but for some such cause as this, the Institute class of students might have flourished and the Association might never have existed. It is a reason which ought not to weigh too much in well regulated minds, but the present consideration of the "affairs of the Institute" offers, as I pointed out above, an opportunity for seeking the removal of any actual objections of this kind, and if the members of the Association joined the Institute *en masse*, they would be a sufficiently powerful body to take care of themselves and assert their rights.

I think that young men join the Association, not because it is a separate body, but because it is a flourishing one, and that men who join it in more advanced years, do so because they appreciate the work it is doing, and can show their kindness, which we thoroughly appreciate, in helping and advising their juniors. But I cannot see that any of this most useful work in classes, visits, &c., need cease in the combined body; but, on the contrary, it would probably gain by the increased number of seniors who would feel an interest in the juniors of their own society.

Fourthly, it is said that members of the Association do join the Institute as they grow up, and therefore any fusion is unnecessary. It is found that ninety-four members of the Association are either fellows or associates of the Institute; and it appears to me that we (for I am one of this number) should feel more interest in the concerns of one body than of two, while those elder members of the Association who have not joined the Institute (and who, I suppose, represent the "rival feeling" sometimes quoted) would benefit the combined society by their membership.

In conclusion, Sir, it appears to me that the profession as a whole would gain immensely by the formation of one powerful society to which every one of its members would feel almost obliged to belong, instead of being left to take their choice of two, and sometimes not forming either; that now is the time to strike while the iron is hot; that the premises at Conduit Street could be arranged to better advantage under such a system; and that, perhaps in time, we might build a house of our own on the Thames Embankment.

Your obedient servant,
EDWARD J. TAYLER.

SIR,—As it is possible that the letters you published last week respecting the suggested union of the Institute with the Association may cause some misunderstanding, allow me as a member of the Committee of the Association to say that the implied official character of the letter from Mr. Edmund Sharpe must not be supposed to mean that the Association has taken any steps in favour of the "fusion," of which it is rather to be regretted so public an announcement should have been made before either of the societies had seriously entertained the subject.

It has been recommended both to the Council of the Institute and to the

Committee of the Association, as a desirable object to be gained, but the difficulties that lie on the very surface of the matter are so great that it is not probable either society will take such a bold step until it has been decided that the advantages to be secured are sufficient to warrant so great a risk.

A frequent mistake is made in supposing that the interests of the Institute and the Association are antagonistic, but, as a fact, they were never in greater harmony than they are now. Each has a very different work to perform, and it is only necessary that they should be brought into closer union at the point where the work of one ceases and the other commences.

The Council of the Institute have, in their annual report, referred to the appointment of a special committee for taking into consideration the affairs of the Institute generally, and out of this has arisen the question of the desirability of amalgamation with the Association, but the two subjects are not identical, and it would be better for each society to secure for itself the best possible means of carrying on its own work separate from, but in contact with, the other, and assisting or advising when necessary.

If the Institute could in this manner gather around it not only the Architectural Association of London, but the whole of the provincial societies, each retaining their own distinct existence, but together forming a confederation, it would improve the position of the Institute, and secure the interests of the profession at large far better than if the whole of the members of each society were engulphed in one huge corporation.

10 Brunswick Square, W.C.

May 6, 1875.

Your obedient servant,

JOHN S. QUINLAN.

The Voluntary Examination.

SIR,—It appears from the report of the Council of the Institute that the voluntary examination must still be considered a failure.

The Council express regret at this, and their regret was apparently adopted on Monday night by a large meeting of the older and influential members of the profession. If the Council and those members are really in earnest, and do not limit their grief to the luxury of a sentimental hope that some one else will do something, I think I can suggest a very simple plan by which the list of candidates for examination can be fully filled.

Most of the older members take pupils, generally with a handsome premium in return for the full professional instruction each is supposed to receive. If these examinations are really desirable, it surely becomes a duty with each master to insist on his apprentice entering for them.

Few young men going fresh to an office have any idea how to direct their own education, and it is idle to expect any large proportion to be such paragons of virtue as to seek out for themselves every possible means of improvement, especially as such can often only be attained at the sacrifice of other things equally important to healthy youth.

It is true the masters will lose a certain part of the pupil's time and work, but they will have an opportunity of proving whether they are really taking an interest in the education of the younger, or whether the prevalent cry is all sound and vain fury.

In former times it may have been possible for a pupil to learn the whole of his business during the years of his apprenticeship, but in our present large offices and with our modern subdivision of labour it is notorious that even an unusually industrious pupil may leave a large office with only the slightest knowledge of very important parts of his profession.

At present the masters seem content in too many cases to accept the premiums and work of their pupils, and to leave to the Association or voluntary effort the task of their education. I make bold to assert that the old system of instruction in office has become inefficient to impart the multifarious knowledge required of the profession in the present swiftly-living age, that is, unless it be supplemented by the examination or other similar instruction; and I shall also maintain that it is upon the masters that the onus lies of seeing that their pupils are put in the way of, and stimulated in, acquiring the necessary knowledge.

I suppose the legal powers of a master would almost enable him to insist on his pupils preparing for the examination; at any rate it cannot be doubted but that moral influence, supported as it would certainly be by that of parents and guardians, would be quite sufficient for the purpose.

Your obedient servant,
RALPH NEVILL, F.S.A.

Royal Academy Exhibition.

SIR,—There is no better place for ventilating a grievance relative to the profession than in your columns, if you will kindly allow me a little space to do so. It is in connection with the Royal Academy Exhibition.

I was at much trouble and expense in getting up, colouring, and sending in four pictures into this Exhibition—two large exterior views of country mansions (both of which you kindly represented in your paper), and two small sketches of interior views of their respective staircase halls. The first two were coloured by a professional, and the other two (I am told not discreditably) by myself. After keeping them ten days the committee gave me notice to remove them.

Well, I bore it at the time with a resignation not always displayed by members of my profession, until yesterday when I went and saw the accepted drawings, and then I saw what struck me as being very hard. An architect who stands at the top of our profession sends in and gets admitted four or five gigantic drawings, all representing one building, sections, elevations, and perspectives. Another firm of architects send in two or three almost as large of one building also.

Is this fair, when there are so many competitors all eager to get a little corner of the walls were it ever so high above the line?

Then the majority of the drawings were in pen-and-ink—no fault in that, but does it not show that there is a prevalent idea that the Academy will not accept pictures which have not been coloured by the architect's own hand. If this is one of the rules why is it not clearly mentioned in the instructions, a copy of which I secured before I thought of exhibiting?

Of course, I only expect to receive the sympathy usually accorded to grumblers, and doubtless many will say—"his drawings could not have been much, and no doubt he deserved it." I shall not care if it is the humble means of something being done to give the lesser luminaries of the profession a chance of displaying their talents, or, at least, of inducing the Academy to be more explicit in their rules before struggling architects put themselves to expenses which they cannot well afford.

Your obedient servant,
"CAST OUT."

LEGAL

Court of Exchequer—May 3.

Before MR. BARON CLEASBY and a Common Jury.

SEARLE v. MARSHALL.

The action was brought by the plaintiff, who is an architect and surveyor at Tottenham and Enfield, to recover compensation from the defendant for work and labour done, and professional services rendered in preparing plans, &c., for proposed new warehouses in Old Street, St. Luke's. The pleas were never indebted.

Mr. Wm. Grantham was counsel for the plaintiff; Mr. Glyn for the defendant. The plaintiff, in examination by his counsel, stated that he had prepared the original drawings according to the usual custom, and they were submitted to the defendant who approved of them. The defendant wished to have that part of the drawings relating to the roof to remain in abeyance until he should see how he would get on with the whole building. The defendant desired to make use of the adjoining wall, and the plaintiff advised him that it would be necessary he should first obtain the consent of the owner of that wall before he made use of it; but Mr. Marshall replied that he knew the gentleman so well that he would not have any difficulty in that respect. The difficulty with regard to the roof was, that the defendant was desirous of having it covered with tar asphalt, but witness reminded him that the Metropolitan Building Act would interfere and prevent his carrying out this design; 1,800*l.* was the estimated cost for the proposed building.

The defendant afterwards did not carry out this building, and not having paid plaintiff's charge for his professional services, he sent him in a bill for twelve guineas in November, 1874. The copy of this account showed that the sum named was charged for making preliminary survey of the site of the intended building, and for several interviews with defendant at his own request. Witness applied for the drawings, but he had to wait a considerable time before he got them. Soon after he sent in his bill for the work done; but he had not received the twelve guineas. He had charged 1*½* per cent. on the estimated cost for the building, which was the usual amount charged by architects.

BARON CLEASBY: But this work was not carried out.

THE WITNESS said that 1*½* per cent. was the customary charge made by architects on the approximate estimate for the work. For the work already done by him he would be entitled to 2*½* per cent.; but he had only charged half that amount. For work of this kind architects were entitled to claim 5 per cent., apportioned in this manner—1*½* per cent. for preliminary drawings and survey of the site; 1*½* per cent. for general drawings with specification; 1*½* per cent. for detail drawings; and 1*½* per cent. for superintendence. In the present case the work in respect of the first two items had been done, and the witness considered he was justified in making his present demand, which was only half the sum he could legally charge.

BARON CLEASBY: If you had supplied the specifications and the work had been completed, you would, I suppose, be entitled to charge the full 5 per cent.?

THE WITNESS answered that for the survey of the site and the preliminary drawings furnished, he could claim 2*½* per cent. on the proximate estimate or cost for the building proposed to be erected.

BARON CLEASBY: But the superintendence of an architect would not be required here, as there was really nothing to superintend.

MR. GRANTHAM: He has not charged any item for superintending.

BARON CLEASBY: Did you give the defendant an estimate?

WITNESS: I did, my lord. The amount was 1,800*l.*, and upon this sum the percentage is charged. The defendant directed me to make the estimate. I did not put the estimate in writing. It is customary to give it to a client sometimes verbally.

In examination the PLAINTIFF said that it did not matter whether the intended building was abandoned or not; the custom of the profession justified the architect in demanding 2*½* per cent. from his client for making the survey of the site, and preparing preliminary drawings; but in this instance the plaintiff charged 1*½* per cent. only, as he wished to retain the custom of Mr. Marshall, who, he expected, would prove a good customer, as he had a good deal of building work in contemplation. A reduction might be made on the architect's charges in cases where the estimated cost for carrying out the buildings was unusually large.

The learned COUNSEL for the defendant asked the plaintiff if he would be entitled to charge 2*½* per cent. as commission in cases where he had prepared plans and sent in an estimate, say for 1,800*l.*, but that afterwards it turned out the proposed work could not be carried out for that amount?

MR. SEARLE said that in that and other hypothetical instances put by the learned counsel, he would be entitled to demand the percentage named.

MR. GLYN: Even if you were wrong as to the estimated cost for the work?

MR. SEARLE: That might afterwards be a question of law. (A laugh.)

MR. DONALD CAMPBELL, architect and surveyor, gave corroborative evidence as to the existence of the custom, spoken to by Mr. Searle, in the architectural profession, of charging 2*½* per cent. on the estimated cost of a proposed building—half the sum for survey of site, and the other 1*½* per cent. for preparing preliminary drawings—even in cases where the buildings were not carried out but abandoned.

In the result the jury found a verdict for the plaintiff, believing that the existence of the usage or custom alluded to had been established to their satisfaction.

General

The Exhibition of the Royal Scottish Academy closes to-day (Saturday), after a very successful season.

The Paris Salon this year contains 2,019 oil paintings, 808 drawings, water-colours, chalks, miniatures and enamels on china and copper, 620 pieces of sculpture, 46 medals, &c., 105 architectural designs, 230 engravings, and 34 lithographs.

The Designs of Mr. Henry Lord have been adopted for the extension of the Peel Park Museum Buildings, Salford, subject to the obtaining of a tender for the completion of the work for a sum not exceeding 6,000*l.*

The Dean and Chapter of Norwich Cathedral are about to expend between 2,000*l.* and 3,000*l.* in the restoration of the west front of the cathedral.

Mr. Rupert Kettle, Q.C., has resigned his appointment as arbitrator in trade disputes, no longer having the time at his disposal to discharge the onerous duties it imposes.

Mr. Ralph Bowen, son of the Master of the Stourbridge School of Art, having obtained a high place in the examinations in artistic anatomy and figure drawing at the École des Beaux-Arts, has obtained the privilege of studying in the ateliers of MM. Gerome and Yron. This position is regarded as of so much importance that if he had been a Frenchman it would have excused him from four years' service in the army.

Mr. W. Atkinson has given 6,000*l.* for the erection of a public library and fine art gallery at Southport.

Mr. Joseph Mayer, of Liverpool, has given 2,500*l.* to found scholarships in the High School, Newcastle, Staffordshire. The second scholarship, tenable for three years, will be allotted in July, 1878, for proficiency in art studies, to be held at the Art Department, South Kensington, or in any of the Royal Academies in England, Ireland, or Scotland, or any great central society of arts to be appointed from time to time by the governors of the High School.

Lieutenant Conder, R.E., the officer in charge of the survey of Palestine, reports the recent discovery of the city and cave of Adullam. The ruins comprise the usual confused remains of dwellings, with wells still open, aqueducts, tombs, hill terraces for cultivation, and rock fortification. Without the walls and on both sides of the valley are a series of caves, still used as dwelling-places or stables, in which abundant room might be found for David and his followers.

The Holywell School Board have appointed Mr. John Hill architect and surveyor.

The Offer of Mr. Albert Grant to improve and lay out Soho Square as a public garden has been declined, but the inhabitants have resolved to remove the dilapidated monument of the Duke of Monmouth, to enclose the square with new railings, and to lay out the ground in ornamental flower beds. The inhabitants will defray the cost of these improvements, and the square will be kept private, as heretofore.

The Artisans' Dwellings Bill was read the third time in the House of Commons on Friday in last week.

The Metropolitan Board of Works have elected the following district surveyors:—For East Newington, Mr. G. Lansdown; West Newington, Mr. Banister Fletcher; East Hackney (North), Mr. F. R. Meeson; and East Hackney (South), Mr. C. A. Gould.

The London Central Railway, which was intended to unite the Easton and Charing Cross Railway Termini, is to be abandoned. The line was to be constructed partly beneath a new thoroughfare leading from Tottenham Court Road to Trafalgar Square, and to which the Metropolitan Board of Works were authorised to contribute 200,000*l.*

A Painting of Laocoon and his sons has been discovered at Pompeii. Its condition is so sound that it is likely to be removed to the museum.

The Brighton Town Council have determined to levy a charge upon all sand and beach removed from the sea front at the rate of 4*d.* per cubic yard if for use within the borough, and of 8*d.* per cubic yard if removed beyond the municipal boundaries.

Seven Designs only have been submitted in the competition for the new Town Hall of Annan.

The Leicester Town Council have adopted an amended design for the tower of the Municipal Buildings now in course of erection. This will entail an additional expenditure of 1,785*l.*

The New Church erected in Prebend Square, Islington, at the cost of the Clothworkers' Company, was consecrated on Tuesday by the Bishop of London.

The Sheffield Independent announces that steps are being taken to obtain a site for the erection of the college in connection with the Cambridge University extension scheme, which it is the intention of the Mayor of Sheffield to erect and present to the town. 15,000*l.* is spoken of as the probable cost of the building.

The Tiber Commission has reported against the project for excluding the river from the city as impracticable.

The Preston Waterworks have been completed, and they will supply between six and seven millions of gallons daily.

The Commissioners of Supply of the county of Linlithgow have agreed to erect a memorial tablet with medallion likeness of the Earl of Murray, Regent of Scotland, who was shot by James Hamilton, of Bothwellhaugh, nephew of the Archbishop of St. Andrews, in the year 1570. The memorial is to be affixed to the north wall of the Sheriff Court House, opposite the place in the street where the Regent was slain.

The Publication Office of the New York Tribune has been completed. It is one of the most prominent structures in New York, being surmounted by a tower 260 feet high.

It is Officially Announced that orders have been given for the replacement of the statue of Napoleon on the summit of the Vendôme Column, and that the complete restoration of the monument will not be long delayed.

The Wages of the operative masons in Dunfermline have been raised from 8*d.* to 8*½d.* per hour.

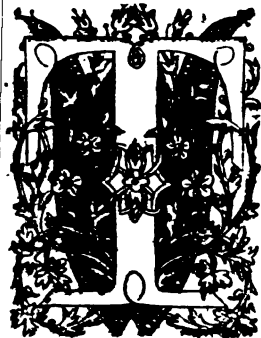
The Survey for the Panama Inter-Oceanic Canal has been completed by the United States Government Expedition, and the route recommended as most feasible is the Isthmus route by the Chagres River, and this has been adopted by the Columbian Government.

A Skating Rink was opened on Wednesday in Manchester. It covers an area of over 3,000 square yards. There is an enclosed building 130 feet by 60 feet, and 40 feet high. The roof (which is 60 feet span) is supported on wrought-iron riband pillars, 16 feet high and 12 inches diameter, and weighing only 4 cwt. each; but, notwithstanding their lightness, they have been tested to carry 50 tons on each pillar. The contractors for the entire work were the Manchester Riband Telegraph Post Company.

The War Department have adopted the water-pipes supplied by the Patent Lead Encased Block Tin Pipe Co., of Liverpool, for the new barracks at Glasgow. The Home Office have ordered them for the Old Mill Reformatory, Aberdeen.

The Architect.

MORTAR: AN IMPROVEMENT IN THE LAW OF BUILDING.



THE circular letter of the Metropolitan Board of Works which we print in another column is a much more important document than may at first sight appear. It is nominally and officially a communication addressed by the Superintendent Architect of Metropolitan Buildings to the District Surveyors of London in order to inform them of a certain decision which one of the Police Magistrates has given upon the subject of mortar. It is in reality the publication of a legal conclusion, now at length arrived at after long hesitation, the effect of which, it is hoped, will be to prevent in a great measure the continuance of a system of rotten building, as we may well call it, which has too long prevailed in London, to the disgrace of the trade, the wreck and ruin of house property, and the positive endangering of people's lives.

The very commonplace material called mortar is in reality a contrivance of considerable interest as well as importance in building. The crude idea of perhaps most persons is that it is a "sticky" substance, made up of lime and used for "sticking" bricks or stones together. If it does not happen to "stick," something must be wrong of course; but otherwise all is right.

The scientific doctrine concerning mortar not only is very different from this, but goes in fact in almost a different direction altogether. The material so called is in reality a kind of artificial stone, composed chiefly of sand. The sand, at any rate, is the ingredient of substantiality or strength. Lime is mixed with it for the purpose of causing the particles of sand to cohere. Water is added to form the sand and lime into a paste. The particles of sand ought to be in the closest possible contact amongst themselves, and the moistened powder of lime, so to speak, is only required to fill up the ultimate interstices. When the water has evaporated, the lime is left attached to the surfaces of the grains of sand, and it is enough to say that the better the quality of the lime the more strongly does it attach itself to the sand and thus cement together the whole mass. It follows consequently that the mortar is in reality an artificial calcareous sandstone; and the reason why it serves the purpose of uniting bricks or stones together is simply that the same cohesiveness of the lime by which the sand-grains are attached to each other causes those of the sand-grains which are in contact with the brick or stone surfaces to be similarly attached thereto. A mortar-joint in a wall is therefore a thin layer of sand interposed between two bricks or stones, and pervaded by lime. The lime when first mixed up is quicklime, and the process of moistening and evaporation leaves it in the condition of set or dead lime; but the partly chemical partly mechanical change that has taken place need not perhaps be here otherwise accounted for than by recognising the idea of its having eventually become the cohesive substance which it is popularly understood to be. It is a sufficiently good illustration of the case to say that if flour were used instead of lime the moistening and evaporation would thus far leave the mortar temporarily in something like a similar condition.

In this view of the matter it will be readily believed that the quality of the mortar depends upon the strength and freshness of the lime, the cleanness and sharpness of the sand, and the cleanness of the water. Inferior lime, which, for instance, has been made from chalk instead of hard stone (all lime being obtained by calcining the natural carbonate), or good lime which has been damaged by damp or otherwise permitted to become wholly or partially set before mixing, will of course produce bad mortar. Foul sand, on the other hand, by reason of the interposition of a covering of non-adhesive substance, such as clay, between the lime and the surface of the particles, must make bad mortar. Sand which is round in the grain, instead of being angular or sharp, will also produce inferior mortar because of the want of what may be called dovetailing or bond amongst the particles. Lastly, water which is foul may be considered to have an injurious effect upon the mortar by introducing throughout the mass, although in a merely microscopic way, whatever foreign matter, such as clay, it may hold in suspension, thereby interfering with the cohesion of the lime.

It is fortunately not necessary to be over-fastidious about these points of quality in the ingredients except under very peculiar circumstances, but it must be evident to the most inexperienced mind that a certain amount of pains must be taken in their selection. Mud, for example, ought not to be made to do duty for the sand; neither ought garden mould. One most essential quality in a mortar joint must be that, when once set and indurated by evaporation, it shall not be liable to soften again by the absorption of moisture. Absorption in a certain degree cannot be prevented; that is to say,

set mortar absorbs water precisely as stone does; but if the mortar should be so badly composed as actually to become again reduced to a pasty consistency, its strength is obviously no more than that of so much clay, which will go on for ever softening when wet and hardening when dry. In fact in many cases such mortar is even worse than clay, because, when once softened by moisture, it hardens again only in the character of dust or powder.

Now, financially considered, the making up of mortar for building the walls of a cheap house, such as the poorer class of speculators erect in the suburbs of London, involves the purchase, not only of expensive lime, but of expensive sand. Indeed the sand, adding the expense of carriage, is in a certain sense more oppressively dear than the lime. Consequently, if sand can be dug on the site of the building operations, this is always considered to be a great advantage; and it may be readily supposed that the temptation to make use of even an inferior quality of sand, if it can be got for the digging, will be strong in any case.

From this proposition the transition is easy to the idea of using the surface soil itself; and indeed it is by no means difficult to understand that in certain localities the surface soil, or perhaps that immediately below the surface, being gritty and comparatively clean, will be quite as good as the sand that is dug in some other localities from a greater depth. In a word, as there cannot of course be any objection to the use of the top soil if it happens to be good sand, so the objection to the use of common garden mould is that it does not happen to be sand at all, or perhaps contains a very little sand with a large proportion of organic matter and clay. But this is obviously a fatal objection.

There is another consideration which now comes into the question. Such a thing as clayey mould possesses an adhesiveness of its own which goes a great way to represent that of lime. Mortar made up with such soil, if the weather be dry, is left by the process of evaporation in a condition of very considerable hardness and temporary cohesion. But this lasts only until the next spell of wet weather dissolves it again into its original clayey mould. When, therefore, the cheap builder is induced to use such spurious sand, it is not to be denied that his mortar, under favourable conditions, may look sufficiently well; and certainly, to such an authority as a police magistrate, it might possibly seem all that could be desired.

Now it must be plain enough from what has been said that without ordinarily good mortar a house cannot be depended upon to stand secure. It may be added that, under that pressure of extreme economy which is incidental to the usual run of house-building speculations of inferior class in and around London, when not the mortar alone but every other item of material and workmanship is scamped to the uttermost degree, as the only known means of making both ends meet, the employment of not merely bad mortar but the worst—that is to say the cheapest—that can possibly be got, is a thing which actually and directly touches the safety of the lives of those who are to occupy the houses. It is on this account then that the Metropolitan Building Act ordains that walls shall be "solidly put together with mortar." All the provisions of such a statute are necessarily confined within the limits of minimum substantiality, and thus it is not to be pretended that the legislature here meant to require anything fastidious in respect of the quality of the ingredients; but it has always appeared to professional surveyors to be only a reasonable interpretation of the law to say that the bricklayer's mortar ought to be on the whole fairly good. Therefore when the lowest orders of speculating builders were found to make a practice of using with the poorest lime that very worst of all pretences for sand the common surface soil of the fields around London, it is not to be wondered at that the district surveyors, who have charge of the public interest under the Building Act, should seriously complain.

Their complaints, however, had to go before the police magistrates, and hitherto those gentlemen had not been found willing to enforce the construction put upon the Act of Parliament by professional architects. Mortar, they appear to have thought, was not sufficiently defined in the Act as a material of quality, and they themselves of course could not take the responsibility of defining it; and, we believe it has until now been invariably found impossible to obtain from the police courts any aid for the purpose of compelling builders to use fairly good mortar or even to abandon the use of exceedingly bad.

The argument which has now led one of the most careful of the magistrates to take a different view of his duty is sufficiently well explained in the circular letter to which we have referred, and need not be repeated here. The leading point, however, seems to be this—that although it is true that the law does not define the composition of mortar, yet, inasmuch as it places the control of that substance under the charge of professional experts—district surveyors who are previously examined by a qualified body, namely, the Institute of Architects—this appears to admit the principle that such experts shall be intrusted with the responsibility of definition. No doubt this is a principle upon which a great deal might be said by lawyers on both sides, but that it is reasonable if reasonably applied no one can deny. To put the case in another way—the offending builder himself, if he were to give an honest opinion, would say that garden mould and lime ought not to be used for mortar; the district surveyor is the appointed authority who says so—and he

says no more—on behalf of the public at large; such therefore shall be the law.

It now remains to be seen what action the mud-mortar builders will take in the matter; but everybody else must cherish the hope that mud-mortar will now be abolished.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

The Greek Plays.—II.

THE costume of Greeks and Trojans in that wide-margined period of time that I selected in my last article for the action of *Troilus and Cressida*, i.e., 1184-900 B.C., is by no means ready to our hands. We cannot refer as we did for the *Merchant of Venice* and other plays, where the period of the action was taken to be in the author's own time, to illustrated guide books of unquestionable authority, like *VECELLIO*, following which it was impossible to go wrong unless by malice aforethought or the crassest ignorance. Nor can we refer, as I did for *Cymbeline*, to collections of armour, &c., such as that interesting Celtic group which exists in the British Museum. The earliest Greek vases in the British Museum and the *pinax* or plate (No. 19 Table, Case B), crude and early as they may be, are yet too late for us by four or five centuries. There may have been, there probably was, far less changeableness in the fashions of building, dress, furniture, ornaments, and implements in those heroic days than in any subsequent period. Three or four centuries, two thousand three hundred years ago, witnessed, I have little doubt, less change in costume than did any score of years in the Middle Ages. Still, we must not think, I imagine, as is too often supposed from the way in which Greek things are usually spoken of, that Hellenic art sprung into being fully grown and completely equipped like the blue-eyed maid, *PALLAS ATHENA*. Styles of art, whether in the shape of architecture or costume, sculpture or painting, or anything else, have always been a-growing, passing through the usual process of all growth—Development, Fulness, Decline. At certain periods of the world's history, and in certain countries, this growth was exceedingly slow, in others exceedingly fast. In the English historical plays we had to do with the fast. We have now to deal with the slow. Therefore, although the earliest figure-painted vessels in the First Vase-Room of the Museum may not take us further back than 500 years before CHRIST, and the sculptures from the Temple at *Ægina* may lead us certainly to no earlier period, yet by taking these as our *point de départ*, and so going up the stream of time until we reach the north-west palace at Nimroud, c. 900 B.C., we may, by the collateral assistance of *HOMER* and *ÆSOP*, together with such evidence as may be derived from Celtic remains, be enabled to arrive at something like a possible, if not probable, conclusion as to the costume of Achæans and Trojans in the Heroic days. Nor must we forget the influence of the Phœnicians or Canaanites through the art manufactures of their great trading cities, Tyre and Sidon, when *HIRAM* was King of Tyre (1,000 B.C.).

And now let us first of all turn to *ÆSOP* and *HOMER*. From these we gather, to begin with, such a wealth of mere material, that, quite apart from art, indicates no mean degree of civilisation. Among these we find mention made of gems, gold, silver, brass, tin, steel, iron, electrum ("Odyssey"), ivory, fine linen, costly furs, skins, carpets, soft wool, horsehair, and costly scents. The art processes employed were studding, *repoussé* work,* chasing, embroidery, and weaving. If a richly wrought silver urn or goblet was wanted, it was sought in the workshop of some Sidonian artist; if the fine products of the loom had to be made all glorious with needlework, it was to the subtle fingers of Sidonian maids they were entrusted; and if a lovely colour was desired, it was to Tyre the home manufacturer was indebted for its dye. And here we cannot fail to be reminded of a singer who was possibly a contemporary of *HOMER*'s, or at any rate of his father's:—"All thy garments smell of myrrh, and aloes, and cassia, out of the ivory palaces whereby they have made thee glad . . . Upon thy right hand did stand the *QUEEN* in gold of ophir . . . And the daughter of Tyre shall be there with a gift . . . The King's daughter is all glorious within; her clothing is of wrought gold. She shall be brought unto the King in raiment of needlework." Of colours a natural yellowish or toned white (milk white and not snow white) was the most usual for all woollen garments; the fine linen vests were also mostly white: red, purple, and various yellows ranging from pale saffron to a green-gold were likewise used, but purple includes blue (violet-blue) as well as the royal colour, or purple proper, where the red takes its full share of partnership, and red means a scarlet, or brilliant crimson rather than vermilion:—"My lips are like a thread of scarlet" shows by the natural simile the *quality* of the "scarlet" here intended by *SOLOMON*. As to the several articles of dress, the "*Iliad*" supplies us with minute particulars, and from these we learn that the full armour, which was mostly made of brass, consisted of:—1, the helmet; 2, the thorax or cuirasse over a linen vest; 3, the cuissots or thigh pieces, and 4, the greaves: no mention is anywhere made of the leather, felt or metal straps which we find depending from the lower edge of the cuirasse in the armed figures on vases of a much later period. Of belts we have three kinds, the zone or waist belt, the sword belt, and the shield belt. Besides the sword

and shield we have the spear, the bow, and the iron-studded mace, which last is very suggestive of the *morning-star* or *holy-water-sprinkler* of mediæval armouries. The men wore the hair long, and their skin was brown. The costume of the fair sex seems to have depended for its effect not so much on quantity as on quality, and more than anything else on the proportion, articulation, and undulation of the splendour of human form. The chiton or tunic, the broad zone, the diplox, pallium, or mantle sweeping the ground, the peplos or veil, the sandals, and the head dress formed a complete toilette. Among their personal ornaments were ear-rings, diadems or frontals, chains, brooches, and necklaces.

And now turn to the actors in this drama. Taking the Greeks first, we have *ACHILLES* presented to us as golden-haired; his sceptre is starred with gold studs; his greaves are of ductile tin; his cuissots are of silver; his cuirasse of gold; his fourfold helm of sculptured (*repoussé*) brass with a golden crest of horsehair gilded; his shield of gold, silver, brass, and tin divided by concentric rings, each divided into four compartments; his sword is of bronze starred with gems; and his baldric is embroidered in various colours. *AGAMEMNON* wears, when unarmed, a fine linen vest, a purple mantle, embroidered sandals, and a lion's skin at night over his shoulders. When armed he wears a four-fold helm with horsehair plume; greaves with silver buckles; a wonderful cuirasse composed of ten rows of azure steel, twenty of tin, and twelve of gold, with three dragons rising to the neck; a baldric radiant with embroidery; a sword with gold hilt, silver sheath, and gold hangers; a broad belt with silver plates; and a shield of ten concentric bands or zones of brass, with twenty bosses and a Gorgon in the midst. *MENELAUS* wears a leopard's skin at night. Old *NESTOR*'s mantle is of warm, soft wool, doubly lined; his shield is of gold, and he wears a scarf of divers colours. *DIOMED*'s armour is of ordinary brass or bronze, until he exchanges it for the gold-inlaid equipments of *GLAUCUS*. *AJAX* is clothed in steel, and carries a terrific mace crowned with studs of iron, whilst *PATROCLUS* wears brass, silver buckled, a flaming cuirasse of a thousand dyes, a sword studded with gold, and a sword-belt like a starry zone. On the Trojan side we see *HEKTOR* with a shield *reaching from neck to ankle*; a plume or crest of white and black horsehair; a brass cuirasse and spears about sixteen feet long. *PARIS*, in curling golden tresses, comes before us in gilded armour, buckled with silver buckles; his thigh-pieces are wrought with flowers; his helmet is fastened by a strap of tough bull-hide; a leopard's skin he wears as a cloak, and his bow hangs across his shoulders. Of the fair *HELEN HOMER* says but little; he infers that her fairness bewitched everyone who saw her, the old white-headed men sitting in the gate, as well as the middle-aged and the young. We see her at her tapestry, wherein with golden thread she is picturing the strife of war and bitter passion which has been roused by her unbounded beauty and her fatal frailty. We see her pass out of the palace, attended by her two handmaidens, her face and arms covered by a thin white peplos, her soft, white chiton tucked up through the gold zone beneath her swelling bosom, and her embroidered diplox fastened with clasps of gold, whilst both peplos and diplox fall in multitudinous folds until they lose themselves in a train of rippling waves. The picture of *ANDROMACHE* in the twenty-second book shows us the noble wife far in the close recesses of her house withdrawn, weaving a web

all purple, double wool,

With varied flowers in rich embroidery;

and mindful of the father of her children, she is giving orders to the servants to prepare for his return. But *HEKTOR* was dead, and when she learnt this,

Backward she fell, and gasped her spirit away.
Far off were flung th' adornments of her head—
The net, the fillet, and the woven bands;
The nuptial veil by golden *Venus* given,

upon her bridal day.

Such, then, is the evidence we gather from *HOMER* as to the costume of *Troilus* and *Cressida*; *ÆSOP*, in so far as he refers to costume, supports it. Now, therefore, let us examine the testimony offered by the arts of painting and sculpture. We will begin with the shield. There can be no manner of doubt that the shield, as described by the poets just mentioned, was of far greater diameter than any we see modelled in the *Ægina* sculptures, or painted on plate or vase. These are scarcely more than thirty inches in diameter, or six inches more than the largest Celtic shield, but the Homeric shield must have had a diameter nearly if not quite double this unless our Classic heroes were very short men. Where, then, shall we most easily find a genuine illustration of this gigantic kind of shield? This question, thanks to the labours of Mr. LAYARD, is readily answered, for on a slab from the Palace at Koyunjik (c. 700 B.C.), now preserved in the Lower Assyrian Room in Great Russell Street, is sculptured in low-relief a row of shields of the exact Homeric dimension—i.e. reaching from neck to ankle, and fully illustrating the convex form, the outer rim, and the central boss. Most of these large shields were doubtless made of bull's hides, and only coated with metal plates. This method of construction, i.e. overlaying a leather foun-

* The *Pelorus* in the shield of *Hercules* is poetical *repoussé*.

* On many vases we find crests parti-coloured.

dation with thin metal, was probably also adopted in the manufacture of the earlier helmets. Among early protections for the head occur hats or helmets, which appear to have been made of skin, leather, or felt. On a black obelisk in the British Museum, dated 850 B.C., we see on the attendants a conical cap evidently of soft material, the point falling back, and the margin turned up like a band; in other words, a Phrygian cap wrong side on. So also the skull-cap form seen in the early Etruscan, Macedonian, and Cyprian helmets, and the peculiar horned shapes seen in our Celtic collection, at Falaise, and in the early representations of HERAKLES are very suggestive of a skin or leather prototype. But the *dramatis personæ* in Troilus and Cressida must have something more than this. Both Greek and Trojan must have "bronze bound peaked helms" and lofty crests, with nodding plumes of horsehair. Now in Table Case B, in the First Vase-Room of the Museum is a plate or pinax (No. 19) on which is represented a combat between MEKELOS and Hektor over the body of EUPHORBOS. The date of the work is probably four or even five centuries too late for us, and I only mention it to call attention to the form of the crest, which is nothing more than the curling point of the Phrygian cap slightly raised and translated into metal, and to the curved back of which the horsehair is fastened. Now with an accurate drawing of this Greek helmet in our hands, let us go down again to the Koyunjik slabs, where we found the shields, and we can see in the helmets of the Assyrian warriors precisely the same arrangement. It is true that there is nothing in the sculptures of the Nineveh Palace indicating any guard or defence for the face, but there are ear-pieces—in some instances they are small, in others large; in some homogeneous, in others attached, as in the Celtic example illustrated in the *Archæologischen Analecten*. These crested helms are always semi-spherical, or nearly so; for the early conical or peaked helm is crestless, although supplied with the ear guards, so necessary to a smooth close-fitting casque. Another marked distinction between the drawing on the Greek pinax and the carving on the Assyrian slab is wholly in favour of the latter as an illustration of HOMER. In the Greek example the hair is worn short, and the neck is protected by projecting wings or curtains forming part of the helm—an arrangement familiar to us in the form of the 15th century *salade*, but on the slab the hair is shown thick, long, and curly, as the natural defence for the neck and as worn by the Homeric heroes.

The usual surface decoration of the helm appears to have consisted of one or more concentric bands with semicircular frontals. These borders once created, we can quite understand that the Sidonian artists skilful to work in gold and in silver, in brass and in iron, and to grave any manner of graving, would not be slow to avail themselves of the field thus offered for the exercise of their art. The Homeric cuirasse is always more or less flaming, i.e., shimmering with light and colour—colour partly in itself and partly reflected. AGAMEMNON'S coat, as we have already seen, contains forty-two rows of three different metals, that of PATROCLUS flames with a thousand dyes, that of ACHILLES outshines the fire, and so on. I can hardly imagine that such descriptions as these can refer to any other style of cuirasse than that formed by bands, scales, or plates of metal (some, perhaps, enamelled) fastened to a leather or skin foundation, something, that is to say, between the flexible horn cuirasse or coat of mail and the metal plate armour that was moulded to fit every muscle of the body. This kind of cuirasse would be supported by shoulder-straps or braces, fastened to the breast and back pieces by studs, or tied with strips of hide. It was probably AGAMEMNON'S leathern braces that were decorated with the crawling dragons or griffins. That this leathern jerkin, if I may be allowed the unclassical expression, descended lower than the abdomen is not likely, otherwise there would have been no need for the cuissots or thigh plates. Nor does it seem that it could have been as short as the later form of lorica or thorax, for if so there was no need for the broad waist-belt or zone. Now if we suppose that the cuirasse was in two pieces, one for the front and one for the back, it follows that without the zone the sides would be exposed, thus the waist-belt becomes a very important feature, and we can readily understand how the word *ζώνη* would be used in the sense of *to arm one's self*. The cuissots were buckled behind the thighs, and the greaves were sometimes fastened in the same manner, although the natural spring of the metal (*when they were formed of metal only*) would be sufficient to hold them in place.

For the women's armlets, bracelets, necklaces, and earrings;* for the woven patterns, and the embroidered borders of the square mantle and the chiton, we cannot be far wrong if we seek in the sculptures of the reign of ASSUR-NAZIR-PAL (c. B.C. 880). Necklaces of beads and of numerous small pendants might be used, if preferred, instead of the bolder medallion necklace. The twisted snake-like form as well as the single medallion may be used for bracelets. The hair was rolled up and confined within a caul or net, made of coloured or gold thread, and a fillet not unusually of thin fine gold bound the base of the net. This fillet, in the cases of very important ladies, might expand into a frontal or diadem of thin gold, bent round the forehead from ear to ear and decorated with very delicate *repoussé* work.

Of the furniture for this play the Ninevite sculptures supply sufficient material, if taken in conjunction with the poet's language, to enable an intelligent stage director to furnish the interior scenes, if not with accuracy, at least without any display of inconsistency.

* Hera's earrings have three drops, formed like mulberries.

ARCHITECTURE AT THE ROYAL ACADEMY.—II.

MR. WATERHOUSE is one of the exhibitors whose drawings are always looked for among the architectural works of the year. He, however, has limited himself to a single contribution (945), a chapel and tower, now in course of erection, at Eaton Hall. This, though by no means an unimportant piece of work, is a mere subsidiary feature in the great mass of buildings which make up the palace of the DUKE OF WESTMINSTER. The chapel is flanked by deep buttresses; the tower, which is a clock tower, and isolated, though near the other building, has none; but the general correspondence of the two features is kept up by the roofs of the tower, and of a turret which forms part of the chapel. Both of these are roofed in two slopes, the outline in each case being broken in various ways by pinnacles. A great sense of power is conveyed by this drawing, and in many ways it gives the idea of practical skill.

Mr. NORMAN SHAW also confines himself to one drawing, which is in the prevalent Queen Anne style, and of a most "advanced" quality. Splendid as a drawing, it represents a building which occasions us little else than regret when we remember the fine powers of which the artist has given proof. The view, which is in pen and ink, represents a six-storeyed London house, with lofty gables, and strips of pilasters running up the face of the walls here and there. An arcade on the ground storey affords a good opportunity of securing a picturesque effect, and we need not say that both in this and in other "bits" of the composition fine artistic feeling is visible. It would be impossible for such an artist as Mr. NORMAN SHAW to fail in attaining at least this degree of success; but it is unfortunate that the style selected and the general principles of design adopted should be such as prevent our giving more praise than this. The drawing is as finely executed as any we remember, even from Mr. SHAW'S pen.

Mr. CROSSLAND sends four tinted drawings, of which two (1,043 and 1,927) illustrate his Rochdale Town Hall, a fine building of pointed architecture. The exterior view shows that this is a large building, bold in composition, and, though exhibiting a certain amount of harsh contrast between its component parts, vigorous and picturesque. The main mass of the design consists of a large central hall, having a similar block at each end. It is flanked by a very lofty tower and spire, the height of which renders it a suitable counterpoise to the great size of the hall. Less satisfactory is the view of the interior of the staircase, which is spanned by a lofty groined vault, executed in two colours of stone, and is rather heavy and sombre in its effect. The stairs barely play any part in the design as shown in this drawing, and the whole seems to require some amount of surface decoration to render it attractive. The Huddersfield Post Office of the same architect (1,013) is a composition, excellent as far as the selection of style is concerned, but open to criticism in its treatment. A low central mass is here flanked by two lofty pavilions, and thus what might have been one fine group if otherwise handled, is made in effect into three almost separate buildings of small size. The pavilions themselves are marred by the want of any central opening or feature, and their rather elaborate dormers kill one another. The lower storey is, however, satisfactorily carried out, and as appropriate as it is unobtrusive. The sanatorium which Mr. HOLLOWAY (the "Professor" of the advertisements) is building at Virginia Water (986) forms the last of Mr. CROSSLAND'S contributions. If we mistake not, the late Mr. JONES was joint architect with him in the undertaking, though his name does not here appear. We cannot say that we are favourably impressed by this large representation of a very extensive pile. A heavy central hall with a large mass of buildings on either hand, diversified by ornamental features, but not in themselves telling, is here represented; and, though the doors and windows seem good, they do not go far towards redeeming the essentially commonplace dullness of the whole. A large tower is introduced, but its top strikes us as the weakest terminal possible to such a structure; and though it is not easy, where mass and height are ample, to prevent a tower from being effective, we think Mr. CROSSLAND has done the best he can to accomplish this by the roof which he has designed.

In an exhibition where competition designs are so prominent as we have found them to be at the Academy this year, it was to be expected that the recent international competition for the church of the Sacré Cœur would not be overlooked. Messrs. PHÉNÉ SPIERS & PHIPPS, who competed with a regularly-planned design of modern French Renaissance type, send two perspective views and an elevation of their design. The elevation is perhaps the most satisfactory drawing of the three, and the internal perspective the least so. The interior shows a church of not very elevated character, overlaid with gilding and enrichment, and the effect is a good deal damaged by the chalky hue given to those portions of the building which are not covered with colour. The exterior shows a good management of masses. A central dome is the principal feature, but this rises out of a square mass upon which it seems not to be happily planted. In the western elevation the gable of the nave is flanked by two well designed towers. The upper storey of these towers is elaborate and well arranged in every way—the lower part being plain, as in such a position it should be. The drawings are coloured, and if a little sketchy, and here and there a little crude, are very masterly, and must have held their own well among the finished drawings in

which a French competition always abounds. A very different design for the same church, submitted by Messrs. LEE & SMITH, is also exhibited. These gentlemen proposed an apsidal vaulted church of late French Pointed architecture, with western towers, nave and aisles, transepts, and a chevet. They carry their ridge from the west front to the apse with no fleche or break of any sort to mark the crossing, but with this single exception they introduce almost all the features of a first-class cathedral. Their western towers are designed to stand diagonally with the axis of the building, seemingly with the view of increasing their apparent size; but breadth and dignity would be a good deal imperilled by such an arrangement. The architecture is very patiently worked out, and many individual portions deserve careful examination; we may especially point out the flying buttresses with their pinnacles as admirable studies. On the other hand portions, as for example the west rose window, are weak both in drawing and design. Altogether this very ambitious effort deserves kindly recognition, and shows much talent. The drawings—pen-and-ink—would have been more powerful if left with less labour, but the masonry is so covered with minute scratches of the pen as to produce a general and deceptive impression of uniformity and tameness at the first glance.

Another church of no small pretensions, this time not a competition, is the chapel of Lancing College, exhibited by Mr. R. H. CARPENTER (No. 1,046). We have here a lofty collegiate chapel of Early Decorated architecture, with stall-work of date a trifle later than the building itself, of fine English character. The view shows that the chapel has the complete division into arcade, triforium, and clerestory of the choir of a minster; it is vaulted in stone, two different colours being employed; the clerestory windows, which are lofty, and high up, run round the apse, and below them is space for a sculptured reredos. Stalls, with somewhat rich tabernacle work, are introduced, and altogether this work possesses great merit, modest though the drawing is which represents it, and is in every way worthy of the reputation of its author.

Mr. AITCHISON has for some years past been a frequent exhibitor of decorative work. This year he sends three drawings, of which one represents a ceiling, and each of the other two the elevation of the side of a room in a house in Berkeley Square. These designs are most carefully studied, and it is impossible to examine them without feeling that a true sense of the harmony of colour and of the great variety which is admissible without marring that harmony is seen in every portion of them. The finest drawing is No. 1,037—"The Green Room"—and nothing can be more satisfactory than the manner in which this subtle and often difficult colour is dealt with. The gold ornaments introduced, and the enrichment on the panels of the doors, are in excellent taste. Other exhibitors contribute specimens of ornamental interiors, some of which we shall notice in their place, but none of them approach the refinement and delicacy of these works of Mr. AITCHISON.

There is, at least, one specimen of colour decoration which will be appropriately classed with Mr. AITCHISON's works as being contributed by an architect, and not by a mere designer of ornament. We refer to the design, by Mr. GILBERT SCOTT, jun., for improving Hampstead Church (956). This building is in Mr. COCKERELL's hands we understand, and how far it is quite consistent with this circumstance for Mr. SCOTT to exhibit a drawing, showing his own ideas as to what ought to be done, we are not informed, though we cannot doubt that whatever is due to proper professional feeling in the matter has been done. Mr. SCOTT proposes to form an apsidal chancel at the west end of the church, to retain the present tower, and in the main the present architecture, and to cover the surfaces with enrichments in colour. A very pleasing effect is obtained by simple means in this view, and if Mr. SCOTT can succeed in causing the present tower to be retained, which is one of the main objects of his proposals, he will have done a good work.

Messrs. STEVENSON & ROBSON exhibit two designs, but either from love of variety or from some more telling motive they have chosen to vary the order in which their names stand. Let us first consider the more ambitious building—one of the Board Schools of London (1,042), in connection with which Mr. ROBSON's name is foremost. The plans included in the frame will interest professional visitors, as they show how the School Board for London now arrange their schools. The system of left-hand lighting adopted by Mr. ROBSON as far as possible is especially prominent in this plan. Turning from the plan to the perspective view, we confess that the same mind no longer seems at work—the sound sense, admirable arrangement, and good disposition of parts in the plan are here absent. We have a collection of lofty buildings in brick, with enrichments also in brick—probably in red brick. The lowest storey is arched, but the arches are useless, as they are filled with brickwork. Under each arch is a window covered by a label of most grotesque form, also useless, for the whole lies within the mouldings of the arch already mentioned.

The first floor is pretty regularly divided by brick pilasters, which, however, confess their own weakness by springing from corbels. The highest storey culminates in two overpowering dormer windows, painfully distorted, and a great part of their surface occupied by two large enriched panels, we presume, in cut brickwork. In short, all the objectionable features of Classic architecture, with many others which came in with the decadence of taste, are crowded into this design, and all the good features of a true Classic manner

are conspicuous by their absence. Far less objectionable is the other contribution of these gentlemen—a house at Kensington (985). Here we have a three-storey London brick house, with attics treated, it is true, in the Queen Anne style, but with much less extravagance; a large bay window is carried quite up one side of the house. The decorative features, though many of them failing to please us, are unobtrusive, and the general effect is old-fashioned and comfortable.

Mr. COCKERELL, whose single contribution (985) represents a mansion near Winchester, has not fallen into that most modern of old-fashioned styles, of which Mr. STEVENSON is an apostle, but he has not wholly escaped some tinge of the same feeling. He exhibits a large, sombre Indian-ink drawing of a mansion, with high-pitched roofs, mullioned windows, and of generally good domestic character. The outline would be greatly improved by the addition of a tower, or at least by greater prominence being given to the chimneys; but, under any circumstances, this design promises to result in a satisfactory building; though we confess we regret to see that Mr. COCKERELL, whose knowledge of Renaissance art is so profound, should constantly prefer to work in the Pointed and Transitional styles, which everyone knows, rather than in Classic or French or Italian type, where he might fairly hope to stand without a rival.

PAINTING AT THE ROYAL ACADEMY.—II

UNDER the names of *The Festival* (233) and *The Golden Age* (236) Mr. POYNTER, Slade Professor, exhibits two upright compositions, which, from general character, might serve as decorative panels in an interior of severe structure, and are, moreover, the only oil works in the exhibition thus adaptable. Architectonic in style is an epithet possibly not too exalted for these carefully-balanced compositions. The principle of arrangement is the same in both. In one case a youth standing on a ladder gathers fruit from a tree, which he throws to a companion standing below; in the other two maidens are decorating a marble hall for a festival; one crouches on the ground, making wreaths, which she holds up to the girl bending to receive them from a ladder set against a cornice. The play of line implied by the attitudes of two figures bending down or reaching up towards one another is thus the starting-point of both pictures; but here the equality between them ceases. *The Golden Age* presents fine study of the nude—forms curved in vigorous but easy action, sculptural in a certain dignity; colour dusky, but glowing and harmonious. In *The Festival*, on the contrary, Mr. POYNTER tortures grace to obtain subtlety and variety of line. The drapery of the girl on the ground is crumpled into unmeaning and fidgety folds, while the corkscrew curve described by the bodies of both figures is obtained at sacrifice of beautiful and natural action; the colour, moreover, is chalky without brilliance. Yet, taken together, these pictures represent a style of work only too little attempted among us—dignified, but not stilted, nobly decorative, studious of natural truth, but under exercise of the artist's prerogative of selection.

The sole representative of historic art after academic pattern is Mr. ARMITAGE; and though, as usual, entirely wanting in colour and in poetic feeling, *Julian, the Apostate, presiding at a Conference of Sectarians* (518), is worthy of respect for excellent balance in composition, and for the careful way in which the subject has been thought out. JULIAN, cynical, and at ease, sits in the open air, at a marble table, round which the Christians are gathered in various attitudes of disputation: the priests of the Heathen Temple stand behind him in dignified indifference. Thus the opposition of the two groups is in fine contrast, and gives dramatic force to the situation. Mr. ARMITAGE has, moreover, been unusually happy in the study of physiognomy, both in the head of JULIAN, of which the type is taken from a coin, and in the finely-varied faces of the hostile Sectarians; the inflated polemic, the fervent and simple believer, the logician, the spiritual philosopher, the hot dogmatist are all here, and evince a power of observation and expression of mental types for which we had not given the artist credit. The background against which he has set his figures seems rather a doubtful jumble, so that we know not whether we are in Athens or Constantinople, especially as something very like an English church spire runs up into the distant sky, and further embarrasses us. But to the right of the picture men are rebuilding Classic temples, and the statue of MINERVA beneath which the EMPEROR sits, and the details of table, pavement, &c., seem in right accord and antiquarian fidelity.

It is not given to every painter to reproduce the past with the accurate realism of M. ALMA TADEMA. In Room I hangs *The Sculpture Gallery* (26), by that artist, and looks twice the size it appeared in the Paris Salon of last season: a good indication of the small scale on which Englishmen paint compared to their French brethren. M. TADEMA has worked much upon the picture within the last twelve-month, and it now presents a really astounding imitation of solid objects and textures, of living beings and dead marbles, grouped together with that balance of line, knowledge of space, and sense of relation in colour, which he possesses almost alone in full combination. The figures, portraits of the artist and his family, who act for the time as a Roman dilettante, his wife and children, and suite, are inspecting a black marble "Syron vase;" about in various directions are seen well-known classic antiques, the *Agrippina*, the *Pericles* bust, and so on the white walls of the

further court are fringed by perspectives of hanging lamps and upright candelabra. Artistic to the highest degree, in the lower sense of the word, is this marvellous picture; of human sympathies, except a touch of tenderness for the wonder of the children, there is none; of poetic elevation, none. It is a splendid piece of art mechanism and hard-headed study, and as such we accept it thankfully. Thus, also, M. TADEMA's other picture (302). But we are glad to remember that he once painted the *Death of the Firstborn*.

Let us pass to the work of an artist who has not sunk the privileges of the poet while seeking fidelity to natural facts.

MR. GOODALL is at his best strength this year. The qualities of the smaller pictures exhibited by him are all present in his principal composition, to which we will therefore confine ourselves. *Rachel and her Flock* (318) is to our mind a picture of rare completeness. Over the soft sand peaces RACHEL, seemingly in reverie, her father's sheep following her, "for she kept them." Warm light sleeps upon the pale levels, and touches the mountain horizon with jewel lustre; the sheep, skurrying down a sand hillock, toss up the dry soil in a little cloud, and give the one touch of unrest to this scene of quiet beauty; RACHEL, with her sweet girlish eastern face, and the flowing lines of her blue robes, is the centre of a repose in which the bountiful sky, the sandy plain, and harmless creatures are sympathetic elements. The picture is a rounded poem of colour, light, and serious tender feeling. MR. GOODALL is one of the few Academicians who has not abated his force in proportion to the tenure of his honours.

What can we say of MR. MILLAIS? What of the *Crown of Love* (214) in which he pronounces a painful inadequacy to produce in pictorial art the glorious subject of the poem quoted? The verses seem to ring scorn on the painter as one reads them opposite this stage-struck and yet cold performance. Of the four portrait pictures, in that entitled *No!* (262) alone do we seem to recognise the true colourist, the thoughtful artist, the rare worker of former years. In the child portraits (289, 293) touch and taste seem deliberately thrown away, and *Miss Evelyn Tennant* (222), though here and there showing splendid if careless execution, and spirited enough portraiture, is surely crude in hot coloured drapery, while the face and hands are patched and rouged *ad nauseam*: not the young lady's fault we will venture to affirm. Not to return again to MR. MILLAIS, we will speak now of his two remarkable landscapes, *The Fringe of the Moor* (74), and the *Deserted Garden* (265). No scamping of work here. MR. MILLAIS seems to have transferred all the laboriousness left from the days of his pre-Raphaelite fidelity to the landscape work of the last three years; and all that laborious work and good draughtsmanship, and the harvest of an observant but not an impassioned eye can produce MR. MILLAIS produces. But such lustre of colour as may be thrown upon the heather-clad hills, and such witchery of fleeting light and shadow as falls upon them, or on the tangled growth of the desolate garden, seems to have come there by pure accident. Nature was beautiful, and MR. MILLAIS sat down to copy what he saw, and is a clever limner, and therefore to a lover of nature there is much association and some representation of beauty in these two landscapes. But grateful as we are for the downright honest realism of the scenes, we must confess that the sense of labour in the work is painfully and inartistically apparent; and that moreover this manner of MR. MILLAIS' later days (as shown in landscape only, for his figures seem to get painted by chance) lacks the poetic fervour and the patient truthfulness of the pre-Raphaelites, while it does not aim at or attain the ideality obtained by broad and skilful generalisation.

MR. LONG, an outsider yet, has probably achieved the position of painting the most notable picture of the year, and if it had been hung on the line, instead of above it, perhaps before this, instead of before Miss THOMSON's battle piece, it might be found necessary to read the Riot Act to disperse a crowd of unruly sightseers. According to HERODOTUS there was a praiseworthy custom in Babylon of marrying women by an arrangement between an auction and a charity. The beautiful were sold to the highest bidder, and with the treasures thus obtained the ugly were dowered; so that all were disposed of matrimonially without difficulty. This *Babylonian Marriage Market* (482) MR. LONG has ventured to paint, a task requiring no common gifts of taste and skill; the subject might only too easily fall into worse than vulgarity. But the picture is a success. A hall, the walls of which are painted in Assyrian manner with figures on a faint blue ground, is filled with men come to look and to buy. On the left is a sort of auctioneer's pulpit, where the official knocks down the wares; in the centre is a raised platform or open gallery, on which each girl stands in succession to be gazed at; in front, beneath the gallery, crouch the women whose turn is not yet come. At the moment chosen by MR. LONG some fair-haired Circassian or Greek stands upon the platform; she has her back to us, but as she lifts her veil the wonder and admiration depicted on the faces of the lookers on show her to be beautiful. One young fellow, who looks like a poet, seems lost in amazed delight; another, older and apparently a rich man, opens his casket of jewels, eager to make a bid; yet another appears to gaze in regretful worship, as if he fain would claim the maiden but cannot. The row of girls facing the spectators pass from fair to foul in various gradations; the last, perhaps fortunately for the public, hides her face altogether. MR. LONG seems to have chosen the types presented to us in Assyrian wall paintings and architectural figures, and in those strange sculptures of mixed origin which were in London some

time back as the Cyprus collection. But he has taken the allowable license of introducing varied types among the women, who, as slaves, may of course have been brought from afar to the great mart at Babylon. Thus much for the choice of the subject; further, we must note our admiration for the right taste in which MR. LONG has to the full brought out the various points of his theme, without degenerating into the sensual or the common. Wonder, in its true sense of a worshipping admiration, is the prevailing expression among the buyers at this strange auction; while the awkward necessity of painting the ill-favoured objects is carried short of the revolting: a touch of humour indeed helps this corner of the picture in the action of amused horror of a young man, who is looking over the gallery railing at the *wrong* end of the line of girls. In execution the artist has gained breadth and firmness; his colour is kept somewhat quiet; the management of the pearly-tinted background is especially excellent; against it the figures relieve in warm and rich tones.

MR. WATTS has conceived himself to have a mission to the Churches, and he has painted a large picture (584) of the founder of Christianity, by His attitude appealing to the men who quarrel in His name to remember their common bond in His sufferings and example. A group of children embracing at His feet further symbolise the charity which the religious sectarians of the present day dishonour. Of the teaching of this large work, and to a certain extent of a breadth and nobility of conception, it behoves us to speak with respect; but the artist will do wrong to his true mission if he cease to paint portraits, as he is said to threaten, and take to imaginative subjects only; especially on a large scale. His thoughts may be large, but, pictorially speaking, they are the better for concentration and compression. It is by his portraits he will live, although he did once paint *Daphne*, and we hope will live to paint another *Orpheus and Eurydice*.

MR. DISRAELI was good enough at the Academy banquet to point to the development of imagination as a characteristic of the English school, and even seemed to indicate some fortunate individual who possesses this quality in the highest degree. A satirical contemporary politely requests the name and address of the artist indicated. We cannot venture to supplement MR. DISRAELI's observation, but we may remark that one Royal Academician has not allowed the example of his brethren to choke out of him, through a long tale of years, the divine spark. MR. POOLE continues to show that he has imagination beyond his power of expression. *Ezekiel's Vision* (129), and *Entrance to the Gate of Mammon* (261) are grandly suggestive; there is largeness of idea and a true sense of the sublime in these somewhat incoherent creations of a painter, whose art now passes into the garrulity of old age.

We have yet to notice that strange picture, the *Eastern Slinger Scaring Birds*, (398) by an artist generally studious of beauty, MR. LEBERTON. Neither in subject or treatment is this a common or a weak picture; that it is a pleasing one we cannot allow. The attitude of the nude "slinger," whose form is relieved, darkly glowing, against the pure evening sky, is unpleasant in line; the physical type is absolutely ugly. As a ghost, or somewhat like a vulture, is seen the figure of a woman, also a slinger, dusky against the great red disk of the rising moon. There is a fire of reflected light from the hot air and cloudless heaven upon the corn in which the slingers' little platforms are erected; and this especial effect of light, of an atmosphere quivering with heat, and full of the mystery of eastern nightfall, is to us the redeeming feature of a picture otherwise repulsive. It is a vigorous study of natural and peculiar facts which augurs well for the future work of an artist who has perhaps shown himself too gracious and conventional, too eclectic in taste, and too abhorrent of angularity. At the same time this *Eastern Slinger* would prove a very nightmare, were we to be compelled to see it often.

CANOVA AND CHANTREY.

TWO interesting biographies of English worthies have been published this season, viz., "The Life of Sir Roderick J. Murchison, sometime Director of the Geological Survey of the United Kingdom," by Dr. A. Geikie, and the "Reminiscences and Selections from the Diaries and Letters of W. C. Macready," edited by Sir Frederick Pollock. Both, we may say, are above the average of books of the class. The former is in a great measure a history of the progress of geological science in England, the latter is a remarkable self-portraiture of no ordinary man. It is not, however, our intention to notice either work at any length, but as in one there is a reference to Canova, and in the other a reference to Chantrey, which we consider to be worth extracting, we may briefly state how Murchison and Macready became acquainted with those sculptors.

Roderick Murchison was born at Tarradale in 1792. After six years' schooling at the Durham Grammar School, where he was a ringleader of the wildest boys, and a year in the Military College at Great Marlow, he was gazetted ensign in the 36th Infantry when he was about fourteen. In 1806 he joined the British force in Portugal, bore the colours bravely at Vimieira (after receiving a good draught of Hollands gin out of the canteen of a bluff old veteran), and took his part in the toilsome manoeuvres which began at Lisbon and ended at Corunna, returning to England in January, 1809. He retired from the army in 1814. He married a Miss Hugosin in 1816, and it was to her influence and sympathy that the development of

his mental powers was in a great measure due. At that time he was fit only to be classed among the fine gentlemen of English society, "those Epicurean gods of the earth," to use Macaulay's words, "who do nothing at all, and who pass their existence in the contemplation of their own perfections." He was little else than a military fop, and as he supposed a clergyman passed a very comfortable sort of life, he had thoughts then of entering the Church. Before coming to a decision he determined to while away a year or two on the Continent, and in course of time he arrived at Rome.

Many people, wise senators, and others, re-echo the desire expressed by the "distinguished public man" in Mr. Carlyle's hearing and to his great satisfaction, that the Devil might fly away with the Fine Arts; and many consider that the study of art (if it can be called a study) is of no use to anyone except some few who may be artists. They will not admit that the influence of art on the mind is not circumscribed, and may have effect where other things are without avail. To such people it must, therefore, appear incredible that Roderick Murchison, by walks through Roman picture galleries and the examination of Roman buildings, was led from his foppishness to those intellectual pursuits which eventually resulted in his becoming one of the first of European geologists. But so it was. "Through art," says his biographer, who is also a man of science, "he first realised the advantage of a distinctly intellectual life over one of mere desultory gaiety. . . . His art studies in Italy formed the starting point of a new life for him, and led the way to all the work and honours that were to come." Of the elaborate notes on pictures and buildings which Murchison was in the habit of recording in those days, his biographer gives but a very short sample; and we must own that, judging by it, the public sustains no loss from his withholding of the remainder. The observations are not much different in quality from those we might expect from an average constituent of one of Messrs. Cook's tourist parties. But the following passage referring to Canova, who at that time (1817) held an official position in Rome, will be read with interest:—

"Of the acquaintances whom Murchison made at Rome the most notable was the sculptor Canova, with whom he had frequent intercourse at the house of Cavaliere Tambroni, then a sort of chief of art. From his journal and a pencil note written late in life the following reminiscences of the sculptor are given:—

"When asked what he thought the most wonderful structure in Britain (for he had recently visited England), he at once replied, "Waterloo Bridge." Of the antiquities in the British Museum he gave unquestionable precedence to the *Ilissus* of the Parthenon, preferring it on account of the inimitable *schiena* to the *Theseus*.

"He narrated to me how he overcame Buonaparte's obstinacy, who at first insisted that the great sculptor should represent him in marble in the garb of the conquering French general with cocked hat, straight cut coat, and top-boots—hunting-boots "à l'Anglais." Canova stood firm in refusing, and when he said to the future Napoleon, "Then your Excellency must find other artists, and I can recommend both a tailor and a boot-maker in the Corso," the Corsican at once saw a man of taste and genius must have his own way, and Napoleon came out in classical toga, &c.

"Canova was a very active man, and when debarred of his exercise by too much work in the studio, he was in the habit of jumping backwards and forwards over his modest bed, and, proud of his agility, he did it before me.

"This eminent sculptor passes an hour or two every evening at Madame Tambroni's; at nine o'clock he invariably retires. Had a long conversation with him the other night. He observed to me, that when in London nothing offended his eye more than the smoky brick houses with clear painted windows, and was surprised they were not all whitewashed. He spoke of the absolute necessity of our having a museum superior to that of Somerset House. The education of English women delighted him, and he the more regretted the state of his own compatriotes. He asked why all the English began their Italian with Dante and Boccaccio. Metastasio seems to be his favourite author. The style of the one in literature is similar to that of the other in sculpture—both chaste, classical, graceful, and full of pathos. He said of Metastasio's critics, "Quei che lo criticano, lo leggono; e poi piangono."

"In Canova's studio no one appears more conspicuously than the distorted Giacomino. Ask him where he has been, and he answers, "We have been modelling above stairs, io cavaliere ed io." Giacomino was a poor, good-humoured countryman, whom Canova employed as a sort of lower servant in the workshop. He sometimes hands the morsels of clay to his master whilst he is forming the cast, and from hence Giacomino concludes that at least half the merit is his own. He freely canvasses every new attitude, and Canova says, "E mio maestro Giacomino," and always asks for his opinion upon any new work. In these little traits the playful *bonhomie* of the great sculptor is pleasingly exhibited.

"To judge of Canova's simplicity, examine his house. You will find every article neat and appropriate; no luxury, but the utmost cleanliness and regularity—doubly delightful in so filthy a country. Two of his bedrooms are ornamented with his own paintings. During the French invasion he occupied himself for eighteen months with the brush and palette. The compositions are in general just what you might look for from the graceful mind of the artist—a sleeping Venus intruded upon by a peeping Satyr, Venus with Cupids, &c. The colouring is Titianesque, and very wonderful. These pictures have already the mellowed tone of the colouring of the old masters; and a head of an old carter (a portrait from life) is painted expressly to deceive as an antique.

"Madame T. related to me, that when Canova first imagined his group of the Graces, he happened to be in the country visiting the Cavaliere T. Here there were no fine models, but females must be found. Accordingly,

two large and fat female domestics of Madame T. were paraded, who, with herself, formed the graceful trio. Their attitudes must have been most diverting to Canova whilst he drilled and practised them. Canova is now nearly sixty years of age, yet constitution and physical powers are such that he can jump over his bedstead *à pie pari*, and can extend a prodigious weight with his arm."

We must now turn to Macready's reminiscences of the English sculptor. In the latter part of the year 1833, the tragedian suggested to his friend, Mr. Fladgate, that a memorial bust of Mrs. Siddons might fitly be placed in Westminster Abbey, at the expense of the Garrick Club. Before any arrangements were made or the project was published, it was thought best to consult Sir Francis Chantrey, and accordingly Fladgate and Macready called upon him, and were received very kindly. He told them that his price for a bust was 200 guineas; but in this case the price should be no obstacle, and advised them to obtain for him, if they could, a mask of Mrs. Siddons. The following entry refers to this interview:—

"I was very much gratified with Chantrey's conversation. He observed that, to satisfy relations or friends, it was desirable that the likeness of a bust should be as exact as possible, but that in the case of a person of genius, we must have something to engage the attention and respect of those who could never be able to judge of a likeness. His remarks on the necessity of supplying the want of colours by shadows pleased me much: that if he copied exactly a face, as it actually was, it would neither have effect nor resemblance; but that he was obliged to vary, always with due caution and care, the exact surface, giving prominence where shadows might be needful to give the corresponding effect to colour."

Few as these words are they give us a clue to the policy by which Chantrey was governed during his very prosperous career. Like some other artists he recognised the value of expediency, and he was ready to accommodate himself to the desires of his patrons. At one time by exact likenesses, and at other times by likenesses modified so as to gain what he called "respect," he pleased sitters as well as those who had the bestowal of public commissions. The sculptor of the equestrian figure of George IV. in Trafalgar Square at length became so popular that he was recognised as the head of his profession, and was rewarded and honoured accordingly. It is difficult to realise the idea of a sculptor attaining a high rank who was incompetent to treat imaginative subjects, but on portraits alone the reputation of Chantrey must rest. Yet his busts and statues of public men can seldom be accepted as faithful likenesses, and we cannot call to mind any one instance where he succeeded in presenting the character of a man, although he altered features without scruple for that purpose. He possessed, no doubt, the power of giving vivid expression to features. And it is upon this that whatever enduring value his works may have must depend. His bust of Walter Scott differs from the Scottish portraits, and is not so true as a likeness, but through the charm of the expression it has superseded all of them, and the popular notion of the novelist's countenance has been, and is likely always to be, associated with this bust. His bust of Wordsworth, as a portrait, is, by those who were familiar with the poet, regarded as inferior to the one by Angus Fletcher; on the other hand, Coleridge, who had an exquisite faculty of discerning the good and bad points of a work of art, said of it—no doubt judging from the expression—that it was more like Wordsworth than Wordsworth himself!

A few months afterwards Macready had another interview with Chantrey, and he has preserved the following long note of the conversation:—

"Called on Chantrey and, after a long and very pleasant conversation, left him to proceed on his recommendation to endeavour to influence individually the Dean and Chapter of Westminster to remit the fees for a monument to Mrs. Siddons. He questioned us on our views of the description of monument, in which we were disposed to defer to his judgment. He observed that such a record of a great and interesting person should afford posterity the means of knowing and feeling something of the character of the individuals through a portrait which would impart some sentiment in its elevated expression, and that could only be done by a high relief, a bust, or a statue. As to any allegorical device he was *toto cœlo* opposed to it. He referred to his communication with the committee for Wilberforce's monument, who had voted 500*l.* for that purpose, quite forgetting the fees, nearly half that sum, to the Dean and Chapter. Chantrey read his letters to Gally Knight, in which he recommended, upon the hospital, college, or whatever the subscription should be appropriated to, a slab inscribed with Wilberforce's name and claims to the honour of giving a title to such an institution, but deprecating any paltry record in Westminster Abbey, where it would teach no lesson and attract no attention; or, if any monument were placed there, he advised a statue, concealing his deformity, but bearing in its expression indications of those great qualities which had distinguished him. If desirable, let there be a bas-relief upon his pedestal representing his giving freedom to the negroes. He denounced allegory without reservation; take the wings from Victory and what is she? In young Bacon's monument of Sir John Moore, he told us, a stout fellow representing Valour was lowering the feet of the dead hero, and a winged Victory letting down by a wreath under the arms the body into the grave: i.e., Valour and Victory burying Sir John Moore. When Valour is represented digging a grave, put him on a soldier's jacket, and he becomes a pioneer. His account of his employment by the Committee of Taste showed what such committees are, yet Sir George Beaumont was on this referred to, but had honesty enough eventually to confess himself in error. Chantrey never would send in a sketch, or submit to their criticism. He

would not have valued highly, in comparison with himself, his status of him if he did not value highly, in comparison with himself, his status of Washington? he said he did, and I observed to him how strongly the simple dignity of the figure, and the happy union of the military and civil characters had impressed themselves on my memory. He said that he had been most anxious about it, and as the order had been transmitted to him through Mr. West he thought it only a due compliment to him, as an American and President of our Academy, to consult him upon it. In consequence, he called on him and requested that he would sketch a design for the statue. West promised that he would. Six years elapsed, during which Chantrey had often urged and as often been answered by the old man, that 'he was thinking of it—that it was a difficult subject.' At last, having heard that he was ill, Chantrey went, determined to press him upon the subject. He found him so much weakened, that he evidently had not a fortnight to live, and yet the old man was indulging in dreamy hopes and intentions of completing pictures on a scale far beyond anything he had ever yet attempted. Chantrey pressed him on the design for Washington's statue. 'Why, sir, I am thinking of it; I have thought a great deal about it, but it is very difficult.' Chantrey, clearly perceiving this to be the last opportunity he should ever have of learning his views, requested some intimation of the idea that had presented itself to him. 'Why, sir,' said West, 'I intended representing him with one hand laying down the sword, and with the other taking up the ploughshare.' 'This satisfied me,' said Chantrey, 'as to my hopes of assistance from him; and six days after I left him I heard of his death.'

The impossibility of distinguishing which hand was in the act of laying down and which of taking up was directly apparent; but Chantrey gave an instance of it, which I do not wish to forget. Horne Tooke, with whom he was on terms of intimacy, told him that when his book, the 'Divisions of Purley,' was coming out, Cipriani offered to make the design for a frontispiece, and Bartolozzi to engrave it; Horne Tooke accepting the offers, mentioned the subject he wished—Mercury putting off his winged sandals. The piece was completed and sent to Horne Tooke, who could not distinguish the precise action of the figure, who, instead of taking off, seemed to him to be putting his sandals on.

I questioned him on the applicability of sculpture to subjects of such extent as precluded the power of taking in the whole at a *coup d'œil*, in reference to Lough's group of the Centaurs and Lapithæ. He at once pronounced against it, or against more than one figure except where combination is necessary to explain and strengthen the sentiment of part. He instanced the Niobe, and, our conversation rambling to the Laocoon, an exception to the general rule against action in statues laid down by Chantrey, he called on us to note that the attitude of the Laocoon, though one of active and agonising pain, was still one of ease, and sitting down he threw himself into the attitude of a man yawning, which exactly corresponded with the figure of the Laocoon before us."

We may relate the remainder of the history of the statue. Dr. Ireland, the then Dean of Westminster, was "a very gentlemanly and pleasant person," and he promised the fees should be as low as he could make them. Macready and Fladgate, encouraged by their success, so far thought the project might be brought before the Garrick Club, and on the occasion of a dinner given to Macready the subject was broached. It was favourably received, and upwards of 50*l.* was voted instantly. Whether this sum was paid is not stated. Some years afterwards Macready said that he defrayed the whole expense of the memorial with the exception of about 50*l.*, and it cannot be said whether the latter sum came from the club or from the many people who promised him subscriptions. Sir Francis Chantrey having died without completing the model, the sculptor of the statue was Mr. H. Campbell. The inscription on the plinth originally consisted of merely the words "Sarah Siddons;" the place and date of birth and death were added by Dean Stanley in 1865, when the statue of John Kemble was removed from another part of the Abbey and placed near that of his sister.

THE PROTECTION OF BUILDINGS FROM LIGHTNING.

A FORTNIGHT back we gave a rather lengthened abstract of the Paper on the "Protection of Buildings from Lightning" which was read before the Society of Arts. The author (Dr. Mann) has been asked to supplement his Paper by allusion to the danger incurred by using tall zinc tubes ("tall boys") upon the tops of chimneys in towns, and especially to say whether some ready means might not be contrived to connect these elevated masses of metal with the metallic lines of the water-pipes which run to the moist ground. One correspondent referred to an electrical discharge occurring through his chimney-shaft immediately after he had placed one of these metallic terminals on the top.

Dr. Mann now says that metal chimneypots are unquestionably an increased source of danger from lightning discharge, and this especially when a fire is burning in the grate from which the chimney-shaft, surmounted by the metallic cap, comes. When there is an ascending column of heated air and vapours passing through the chimney, that column affords a line of diminished resistance to the electrical discharge, which is terminated by the metallic cap above, and by the iron fire-grate, or register, below. Such a line is more likely to allow a passage for an accumulated electrical discharge between the earth and a cloud than a similar extent of wall composed of compact brickwork or masonry would be; and, unfortunately, the grate beneath is placed in a room where living beings, or unprotected and imperfectly conducting parts of the buildings, are likely to furnish the further route of the discharge to the earth. It is quite possible to connect metallic chimneypots to the rainwater-pipes of a house, so that this danger may be entirely obviated; but, in order to do so, there are two or three incidental matters that must be attended to. A rope of galvanised iron-wire, of not less than half an inch diameter, must be carried from the

the wires be carefully connected along some inches with the surface of the pipe by hard solder. Every joint in the water-pipe must also be continuously connected by some similar contrivance, so that no resistance may be furnished to an electrical discharge by breaks of metallic contact in such positions. The bottom of the pipe must also be placed in intimate communication with moist earth for some distance, or with the metal service-pipes of the water supply, which furnish one of the best earth terminals that can be adopted in towns. If there are several distinct metal chimneypots, either the whole of them must be coupled up together into a metallic communication, or each one must have its own separate connection with the water-pipe. A galvanised iron rope may of course be carried directly to the earth instead of to a water-pipe; and that, indeed, is the better arrangement on all other grounds but that of increased cost.

When a water-pipe is employed as a part of the protecting route it is of some importance that there should be no line of transmission of superior conducting power within striking distance—as, for instance, a gas-pipe connected with the main supply pipes—because there would then be risk of the diversion of an electrical discharge to that line of better transmission, with the possibility of mischief where the intermediate leap occurs. Messrs. Gray, the electrical engineers of Limehouse, have met with one case in which a leap of this character occurred from a water-pipe to an iron gas-pipe running near, with injury to the gas-pipe among other things, and with the ignition of the gas. In the primary design and construction of a house water-pipes may be easily turned to good account as lightning-conductors, but it must then form a part of the design to provide that the several points, which have been here specified, shall have had careful attention.

Dr. Mann says that the direct object of his communication to the Society of Arts was to insist upon the observance of sound scientific principles in the arrangement of any artificial defence against lightning for houses; and to put forth as the most indispensable conditions that have to be provided in accordance with such principles:—(1) the employment of perfectly continuous ropes or rods of good conducting material and of sufficient dimensions; (2) the establishment of large and free earth contacts; (3) the use, as upper terminals, of well-constructed points, which must be raised some distance above the highest part of the building, and be multiplied in all directions when the building is large, as in the case of the Hôtel de Ville of Brussels, which has a system of 228 terminal points of copper and 36 points of iron; (4) the connection of all isolated masses of metal belonging to the building with the main line of the conductor, unless under the circumstance of such masses being liable to the close presence of living persons, as in the instance of balconies to windows, when they should be dominated by points connected with the conductor, instead of being simply placed in metallic communication with it; and (5) the constant memory of the fact that earth contacts and joinings of all kinds are in process of continued degradation and destruction from chemical and electrical influences, and that, therefore, they must be frequently examined and tested, to see that the progress of such changes is not impairing the efficacy of the conductor. Any intelligent person who will take the trouble to master the meaning of these very few simple principles may easily contrive efficient protection for any building.

Dr. Mann considers that the true nature of the agency of points is not generally understood. Many electrical engineers maintain that it is of no consequence to furnish lightning-conductors with terminal points, because in case of a lightning stroke it will certainly go at once to a metallic conductor, whether pointed or not, and pass through it to the ground. This is perfectly true. But the discharge which is made from a thunder-cloud through a pointed conductor is a continuous stream of low-tension electricity, while that made through a blunt conductor is a sudden burst of electricity in high tension. It is the nature of a stream of low-tension electricity to keep quietly in the channel that is provided for it; and it is equally the nature of high-tension electricity to leap away out of that channel whenever the slightest possible excuse is afforded for doing so. Discharges of high tension are always prone, also, to call up all kinds of inductive disturbances and return shocks in the near neighbourhood of their path. A living person might embrace a lightning-rod which was discharging a thunder-cloud by a point without knowing anything about it. But a living person doing the same thing with a blunt conductor discharging a cloud by a sudden disruptive burst, would be in the most imminent danger of suffering serious injury from the discharge. This is the real ground for the superiority of pointed conductors. It is quite possible, too, to furnish a large town with pointed lightning-conductors so as to make the actual flash and stroke of the high-tension lightning an unknown occurrence within its precincts.

THE OXFORD SCHOOLS.

THE *Guardian* states that the following members of Convocation have been elected to serve on the delegacy for the business of building new schools on the site of the Angel Hotel:—A. Robinson, Fellow and Bursar of New College; Rev. E. Moore, Principal of St. Edmund's Hall; G. E. Thornley, Fellow and Tutor of Wadham; Rev. W. W. Jackson, Fellow and Tutor of Exeter; Rev. G. W. Kitchin, Christ Church, Censor of Unattached Students; Rev. R. St. John Tyrwhitt, Christ Church. The five first named have had considerable experience, as Public Examiners, of the present inconvenience and future requirements of the Examination Schools; while Mr. Tyrwhitt's name is well known as that of an authority upon matters of art, and as one of the committee for the restoration of St. Paul's Cathedral. The University may feel confident in the good taste and business capacities of this delegacy, and it is to be hoped that their labours will not be as thankless and unfruitful as those of the former delegacy for the same purpose were rendered by the *coup de main* of certain persons who at the last moment, by circulating a paper of objections to the proposed design, and by a judicious "whip" when no opposition was expected, obtained an adverse vote in Convocation and delayed the whole scheme until now.

ILLUSTRATIONS.

WATER GATE, DENMARK.

THE accompanying illustration for a water gate is a part of a series of designs prepared by Mr. E. W. PUGIN for Count KEETH, which he intends erecting on his estates in Denmark.

The present building will be principally executed in terra cotta, as also the mansion which is eventually to be erected.

The bridge connecting the island with the mainland, which is at present of wood, it is intended to replace with a structure of terra cotta and stone.

LINDISFARNE PRIORY, HOLY ISLAND.

THE remains of this grand old priory church are well worthy of a visit from the architectural student. The plan consists of nave with side aisles, north and south transepts with small eastern apse to each, similar to the original apsidal chancel. This latter gave place in the thirteenth century to the existing Early English chancel. The arches and columns between nave and aisles are very massive, and much like those of Durham Cathedral. The most picturesque portion of the ruins is the richly-carved Norman rib shown on sketch, which stretches from the south-east to the north-west angle of tower. It is 24 feet span, and about 45 feet from the ground. The inner segmental arch of the chancel window was rebuilt about fourteen years ago. The effect of this is not very good. The whole structure is built of a coarse red freestone, which, together with the wild and uncultivated state of the land round about, renders the general effect of the building dark and melancholy. The illustration is from a drawing by Mr. M. REED, jun., Newcastle-on-Tyne.

WINDOWS FROM THE HOTEL DE VOGUE, DIJON

THIS is the third sheet of illustrations of this interesting building which we have given, and it is reduced from several plates in M. SAUVAGEOT's volume, published by MM. V. MOREL & Co.

WE have been asked to mention, that the scale attached to the plan of the Muir College, published in the last number, was graduated incorrectly, and should have represented 120 feet, instead of 60 feet.

SUNDERLAND TOWN HALL COMPETITION.

THE Town Council of Sunderland have lately advertised for designs for a Council Chamber and Offices, Museum and Library, to be erected at the north end of the Public Park. Last week the subject was brought before a meeting of the Council. Some members complained not only that the Town Hall Committee had issued the advertisement without consulting the Council, but that to erect public offices in the park would be to destroy its beauty. It was, therefore, moved "That no further steps be taken in the matter of the Town Hall until it has been decided by the Court of Chancery whether the Council has any right to build on the park or not."

A discussion followed which resulted in 14 voting for and 4 against the motion, several of the members of the Council having declined to vote. Intending competitors had therefore better be cautious before they undertake the expense and trouble of preparing plans in this case.

MILLET AND COROT.

A WRITER in the *Pall Mall Gazette* says that the paintings and designs left by Millet have just been sold at the Hôtel Drouot, and, although much of the work was unfinished, there has never been so favourable an opportunity for studying the genius of one of the greatest of modern French painters. Out of the small group of artists who devoted themselves to the interpretation of peasant life, Millet had the closest knowledge and the most sympathetic understanding of his subject. Painters have commonly used the people of the country only as picturesque incidents in landscape; their costume has been found serviceable to complete and brighten the scheme of colour. Their occupations have suggested the delights of rural life. Millet and those who have laboured with him both in France and England have pushed inquiry a little further. They have reversed the relation between the landscape and the figures, and have presented the labourer as the chief object in the picture surrounded by the landscape as the scene of his toil. For the first time in the history of painting the peasant has been made the subject of serious pictorial study. The new research has resulted in new discoveries for art; and in the common occupations of the country—in the labours of ploughing and sowing and reaping—fresh suggestions of design have been found. These suggestions have the more value because they are based upon a reality that is familiar to all and yet hitherto untouched by art. Rustic labour has changed little with time, nor does it greatly vary in different countries, and it is therefore not sur-

prising that when they are truly interpreted in art the result should have almost an abstract grandeur and significance. But it is surprising that this return to the study of form should be initiated by students of the department of painting that has hitherto done most to render modern art formless and confused. Modern landscape painting, however admirable in other respects, has certainly led to a neglect of the qualities of precise form, and it is therefore not a little wonderful that a new and genuine impulse towards the study of the human figure in its relation to design should proceed from the painters of landscape. In the presence of the designs of such an artist as Millet the process and the result become more easily understood. The first thing remarkable about all Millet's pictures of rustic life is the evident determination of the painter to tell the truth about his subject. The conviction that painting had previously dealt superficially with peasant life gave the strongest impulse towards a thorough study of the neglected facts. If there is an objection to be made to Millet's art, it is that the feeling of revolt from earlier and prettier methods of dealing with the things of the country too strongly tinges his own interpretation. He is sensible that the hardship of rustic labour is so much graver and more sombre than it has been represented that he is driven towards an opposite extreme, and now and then his pictures are conceived in a spirit of harshness and severity that is neither beautiful nor true. He is apt to brutalise the peasant in order to protest against the system of art which has been wont to represent him always with rosy cheeks and bearing flowers; and hence the beauty of the work in a pictorial sense is overpowered by its moral purpose. Among the paintings recently sold there were many, however, in which the severe beauty of the design was unspoiled by any such defect. The numerous studies of peasant figures disposed in simple attitudes, all bearing some relation to the ordinary occupations of peasant life, bear witness to the large and varied results that any subject may be made to yield under a serious and noble system of interpretation. For Millet seems seldom to have gone out of his way to secure unusual incident: judged merely by their subjects, his pictures are the mere record of the life of the smallest village.

The death of Corot may be said to complete and close a certain stage of landscape art in France, and there is as yet no sign of any newer system of interpretation. It must, indeed, be admitted that the style of landscape painting in which French painters have during late years produced such admirable results is not capable of very great development. Even in the hands of a master like Corot it involved such heavy sacrifices both of colour and form, that its scope was necessarily limited, and now it would almost seem as if the limits had been reached. No artist could have been more true to nature than Corot, but the truth of his art was skilfully selected from the truths of nature, and the artist did not even attempt a complete interpretation of landscape. Perceiving the strong control which the changing effects of atmosphere exercised over the facts of scenery, he was able to give the impression of reality without any precise realisation of local colour or of individual form; but in order to do this with satisfaction there is need of the fine and delicate perception which only belongs to individual men of genius. Corot's system is as much his own as his success, and it affords no solid foundation for the development of a school of landscape art. This appears very clearly from an examination of the imitations of the master to be found in the Salon. The magic has departed, and we are left in the presence of work dull and spiritless in colour and of uncertain drawing. There are, on the other hand, two specimens of Corot himself which fully support the highest opinion of his powers. The tender sentiment he impresses upon natural scenery never grows common; the subtle method of his workmanship always remains a subject of delightful study, and the spectator may even look with sympathy upon the slight touch of artifice which led the painter to people his landscape with antique figures.

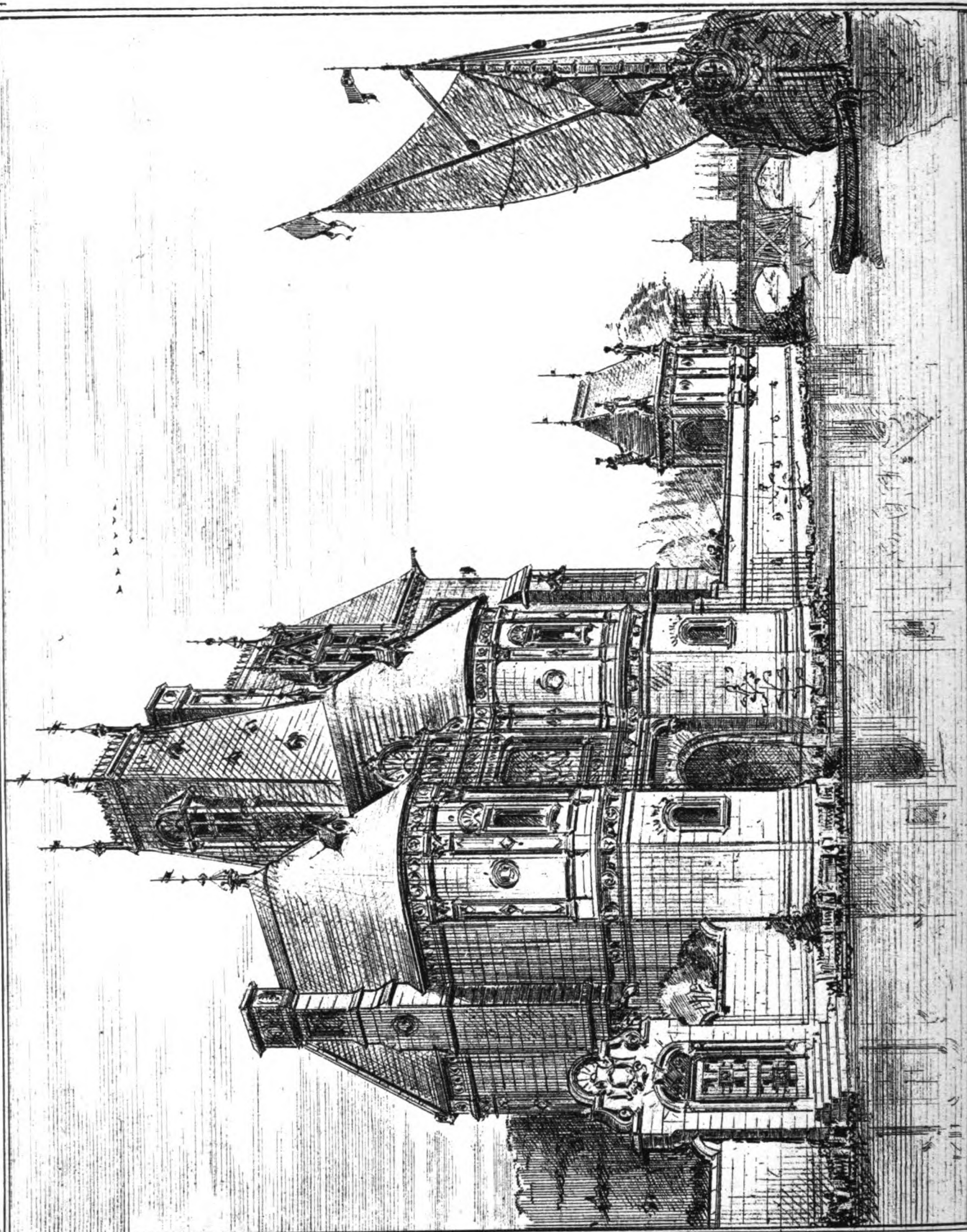
BRITISH ACADEMY OF ARTS AT ROME.

MR. WILLIAM AGNEW, of Manchester, has appealed for donations and subscriptions for the British Academy of Arts at Rome, which, it may not be generally known, has been in existence since 1823. Mr. Hamilton, then the English ambassador at Naples, the Duke of Devonshire, Sir Thomas Lawrence, Sir Watkin Wynn, the Duke of Bedford, and others noted for their intelligent appreciation of the claims of art were amongst the earliest supporters of the Academy. Its main object at that time was, and indeed is, the maintenance of a free and permanent school for the benefit of all British artists studying in Rome. For nearly twenty years before his death the direction of the Academy was entirely in the hands of John Gibson, the sculptor, and Mr. Agnew says that without any disrespect to the memory of this distinguished man, it may with certainty be averred that in this fact lay a misfortune, and that the usefulness of the Academy, and indeed its future, were prejudiced thereby. At the commencement of the past year a committee was appointed to inquire into the cause of the decadence of the Academy. These were not far to seek, inasmuch as the books proved that there had been no committee for twenty years, that in fact the government of the institution had been an absolute one and not an elective one.

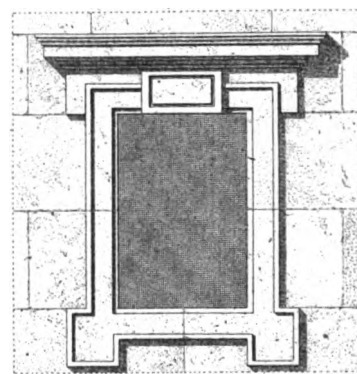
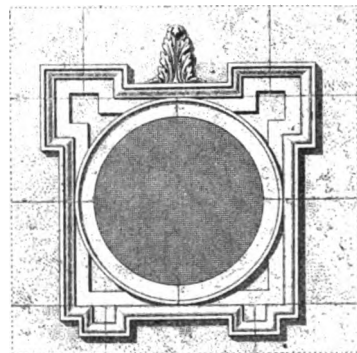
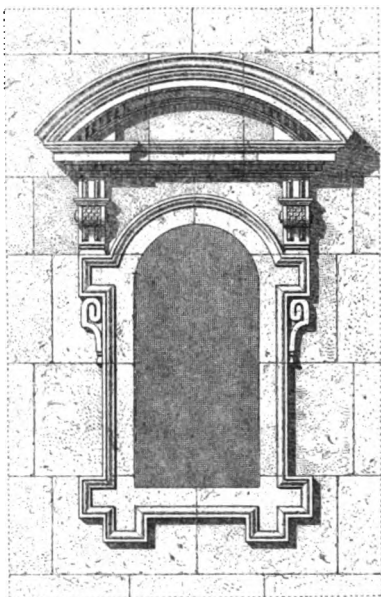
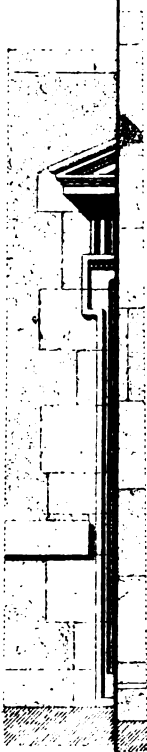
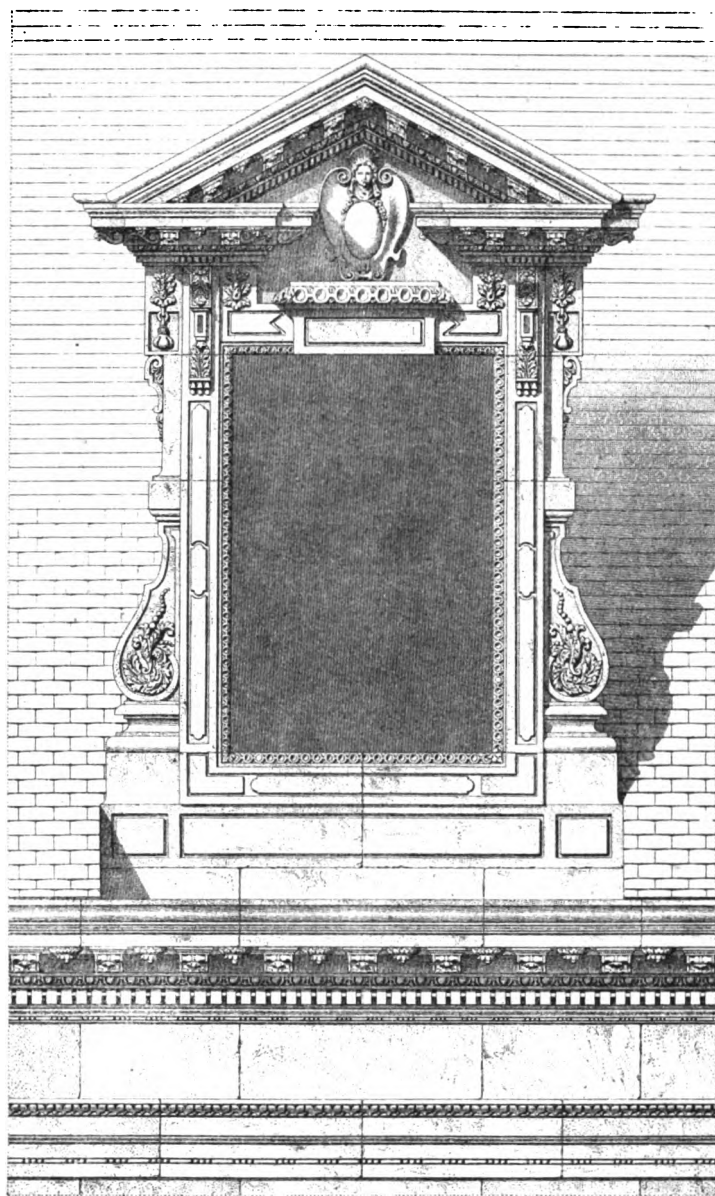
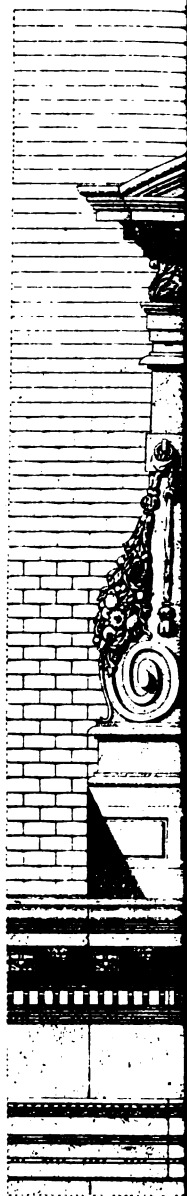
It has been determined to re-organise the Academy upon a broad, efficient, and representative basis, and the property to be vested in the following trustees—viz.: Messrs. J. Severn, Penry Williams, Laurence Macdonald, and Holme Cardwell. Money, however, is wanting. The Royal Scottish Academy has contributed 50%, and private individuals a few hundreds more.

Mr. Agnew, therefore, hopes that some of those who may have derived enjoyment or received inspiration amidst the glories of antique art and of the Renaissance which are to be found in the Eternal City will lend a helping hand to the work of revivifying the Academy and giving to the young artists of Great Britain who may be in Rome advantages which have been enjoyed by George Mason, Hoole, Leighton, Armitage, Barry, Poynter, Dobson, and a host of other familiar names. His firm will be glad to take charge of any donations for the fund, or to afford any information that may be sought.

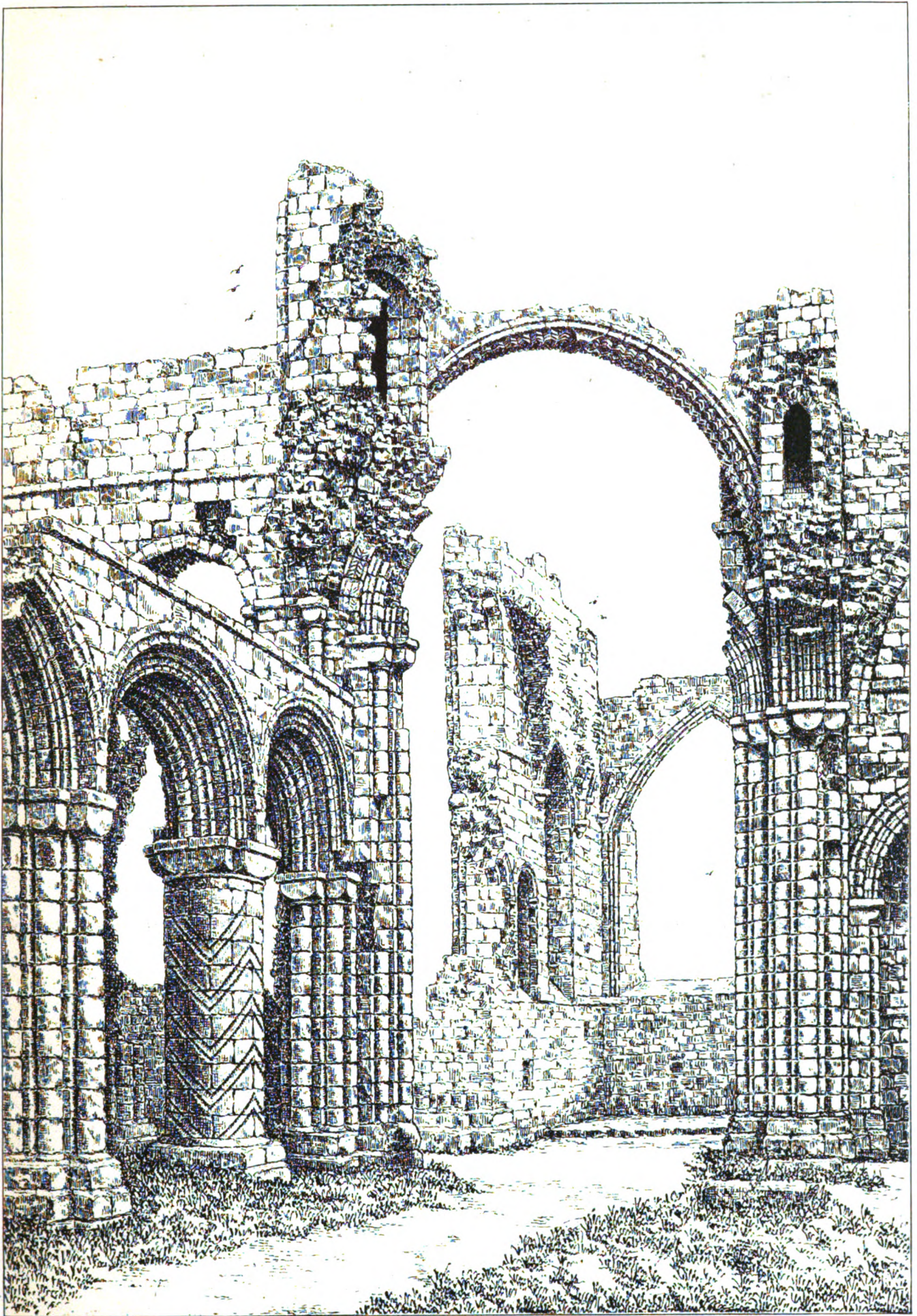




STADY. FOR: WHIER-GHIE: DENMARK. FOR: COUNT KTHD R. 17/11







LINDISFARNE PRIORY.

DRAWN BY M. REED JR.

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AN article by Mr. Carlyle, on "The Portraits of John Knox," appeared in the April number of *Fraser's Magazine* which is likely to give rise to not a little controversy. After examination of various woodcuts, engravings, and paintings, he came to the conclusion that what is known as the Somerville portrait, which is now on loan in the South Kensington Museum, and of which an engraving appeared many years ago in Charles Knight's Portrait Gallery, was the veritable portrait of the Reformer. "If it is not John Knox, the Scottish hero and evangelist of the sixteenth century," says Mr. Carlyle, "I cannot conjecture who or what it is." There is, it must be owned, little direct evidence as to the authenticity of this portrait. Some artist friends of Mr. Carlyle agreed, on examining it, that it was most likely to be no more than a copy of another painting, and could not be of earlier, though most likely of later date, than Sir Godfrey Kneller's time. All that could be said of its history by the owner of the portrait, Mrs. Ralph Smith, was that, as long as she could remember, it hung on the walls of the Somerville town house, in Hill Street, Mayfair, and there was a tradition that it once belonged to the thirteenth Baron Somerville. Mr. Boehm, the sculptor, who took the greatest interest in Mr. Carlyle's investigation, concluded that the portrait was a copy from an original by Francis Porbus, to whom is ascribed the portrait of George Buchanan, in the rooms of the Royal Society, and in this view he was supported by Mr. Henry Merritt, of the National Gallery. Mr. Boehm said that last year he examined no less than forty portraits by Porbus, at Bruges, Ghent, Brussels and Antwerp. In some of them the costume, and especially the large white collar, are similar to the Somerville portrait, and in the whole of them there were corresponding traces in the drawing, arrangement of light and shadow, conception of character, and all those qualities which can never be quite drowned in a reproduction.

It would be unprecedented if a conclusion arrived at in this manner were accepted by antiquaries without discussion. Already a most elaborate reply to Mr. Carlyle's article has been prepared by Mr. James Drummond, R.S.A., the Principal Curator of the National Gallery of Scotland, and was read by him before the Scottish Society of Antiquaries on Monday evening. Mr. Drummond is rather sceptical about the genuineness of the majority of the historical portraits to be found in Scottish mansions. There are many spurious portraits, he says, "in the houses of our Scottish families, who seem to think it essential to possess representations of Sir William Wallace, or Robert Bruce, Queen Mary, George Buchanan, John Knox, or others—all of which become genuine after a little of the smoke and dust of time have accumulated upon them, and are then pointed to as so many links in the various phases of family history. A Queen Mary, a John Knox, or perhaps some family portrait or relic being wanted, they were sure to cast up shortly, just as we have had within the last few years in Edinburgh, relics of various kinds of Queen Mary and others, in silver, ivory, and other material, appearing periodically, with a sort of mystery attached to them; there being a demand, the supply came. Sometimes it is amusing to be told in all seriousness, while standing before a most unmistakable manufacture, that of the genuineness of this portrait there can be no doubt, having been in the family for so many generations."

On the probable origin of the Somerville portrait he says:—"I will now say a few words about this Somerville portrait of Knox. When do we first hear of it? It is supposed—for it is a mere conjecture—that it was bought about 1760; but whether it was acquired by Lord Somerville as a portrait of the Reformer, or was merely his ideal (or, perhaps, his housekeeper's), and consequently so called, nobody can now tell; that is all we know of its history, and some people may think all that is worth knowing of it, so far as being a portrait of John Knox is concerned. This period was in one sense an unfortunate one, when Walpole's example had initiated the fashion of collecting articles of vertu, in fact, anything queer or out of the way, without what we now call archaeological or historical reference. Lord Somerville, like his contemporary, the Earl of Buchan, seems to have been a collector, and, among other things, managed to get hold of the old City Cross of Edinburgh, which he had erected in front of his new house at Drum, in which one of the greatest curiosities must have been his Lordship's portrait of the Scottish Reformer. It was a time also rife in the manufacture of historical portraits, and we can imagine the old Lord wandering from his own apartments in Holyrood to the great gallery of the Palace, with its 120 portraits of kings, beginning 330 before Christ, and ending with his own royal master, George II., who died in 1760—fit place this for inspiration as to the value of authentic portraiture; and as he paced it in the quietness of a summer evening, on even to the gloaming, when the stern old kings, who had been glowering down upon him, and some of whom his forefathers had entertained right royally at Cowthally, gradually faded into dreamy shadows, like the phantom kings of Macbeth, seen as in a glass dimly, the one being as real as the other, and then returning to his own quarters, pondering as he went on the necessity of a picture gallery at his house of Drum, then in course of erection. There was a John Knox at Holyrood, and why not at Drum; and so it came, and no doubt many others, as the necessary furnishing for the house of a lord of ancient lineage. The manufacture of portraits must have been a lively and no doubt a profitable one, and if we did not know something of this, would be surprised where all the portraits of John Knox, Queen Mary, and others come from, which every now and then are cropping up at sales in Edinburgh and elsewhere. Among the most prolific and best known of these producers of old portraits was John Medina, who died at Edinburgh in 1796. He for a

long series of years carried on an extensive practice of this sort. His specialty, however, seems to have been Queen Mary, his model for which he found among the royal portraits in the gallery at Holyrood. This school of manufacture was continued into this century, and I was informed by the late Mr. David Roberts, R.A., that when a boy he was frequently sent messages by his master to an artist called Robertson, who lived by doing portraits of Queen Mary, Prince Charles, and such like, the first of which he varied by a red or black dress; sometimes a veil was thrown over the head, or a crucifix put into the hand, and if required, a crown was introduced somewhere or other, a favourite inscription on the back being, "From the original in the King of France's closet," unless it was to be an original! into which it was easily converted by a little judicious smoking and varnishing."

As to Mr. Boehm's theory that the Somerville portrait must be a copy from one by Porbus, because the style resembles a picture by that artist said to be George Buchanan, Mr. Drummond says it is a more vague and uncertain speculation, for which there is not a shadow of authority. There is just as little proof that the Royal Society's painting is a portrait of George Buchanan. Some forty years ago Sir William Hamilton compared various portraits of Buchanan by measurement with the skull which is preserved in the Museum of the University of Edinburgh, and only two stood the test, viz., the portrait belonging to the University, and the engraving in the "*Icones Virorum Illustrum*," published in 1597, by J. J. Boissard. The head in both is thoroughly Scottish in character, with a long and well-formed nose, well defined cheek bones, and a long upper lip as in the skull, not a round-headed, short-nosed individual with a short upper lip like the Royal Society portrait.

To show the danger of hastily accepting portraits of Scottish celebrities, Mr. Drummond relates how the eleventh Earl of Buchan considered himself a great authority in all matters of art or antiquity, and had got together an extraordinary collection of historical portraits, good, bad, and indifferent, his great discovery being a genuine portrait of George Buchanan, hitherto unknown, and by Titian! The contemporary portraits of Boissard and in the University of Edinburgh were not his ideal, but now he had secured and saved it. This he managed to get engraved by Woolnoth for Tulloch's *London Philosophical Magazine* in 1809, and calling with an impression to astonish a friend, who at the time was sitting in his library, asked him if he had ever seen that, the response being that he certainly never had seen that print before; but going to his bookshelves took down a volume, and opening it, asked his Lordship if he had ever seen that before. His expression may be better imagined than described, for here was a large and most characteristic engraving of the same portrait, which was that of Peter Jeannin, Finance Minister to Henry IV., in "*Les Hommes Illustres*," &c., par C. Perrault, 2 vols. Paris, 1696-1700.

The Somerville portrait, in Mr. Drummond's opinion, carries its own refutation. The upper part of the head, he says, is no doubt well formed, but the jaw is so weak and the chin so uncertain that the person whose portrait it is would have proved quite powerless and incapable in the position which Knox occupied as a leader of men, forming their opinions and directing their actions. The mouth, too, he maintains, is essentially gross and sensual. In short, he says, the portrait does not represent a man who would have carried a two-handed sword to protect his friend Wishart, and still less a man over whom the Earl of Morton could have pronounced his now famous eulogium, "There lies the man who never feared the face of man." As Mr. Carlyle was attracted at first to this portrait through its correspondence with the ideal he had formed of Knox's countenance, and as many of his books indicate that he is something of a physiognomist, the differences between the two authorities on this part of the question is remarkable.

The dress that is shown in the portrait is, according to Mr. Drummond, enough to excite the suspicion of any one acquainted with the history of costume. There is a mass of white around the neck which Mr. Robert Tait, the artist, suggested must be a "falling band," but this article of dress, says Mr. Drummond, was quite unknown till more than a century after the Reformation—in fact, not till the time of the Commonwealth, or after it, and was then very unusual, and when of this size apparently worn by lawyers or counsellors. Then there is the uncertain look of the dress, void of form and shape, a row of buttons, sleeves, anything, just such as one finds in everything of the sort by ignorant manufacturers of portraits, in this case even more careless than usual, for it may be a jerken or a tippet, such as was worn by certain Roman Catholic officials, with a row of false buttons in front; the collar might almost be called a smaller tippet of linen, and what look like sleeves being simple folds of cloth.

The portrait of Knox, which has a claim to be accepted as genuine, is, in Mr. Drummond's opinion, the portrait in Beza's "*Icones*," published at Geneva in 1580, and which Mr. Carlyle regards as more like the wooden figurehead of a ship than a living and working man. The drawing for this was sent by James VI., and the payment to the artist is duly entered in the treasurer's accounts, the artist being one Adrian Vansoun, a Fleming. Mr. Carlyle suggests that there was no such painter then, and that the entry may refer to the Vansomers who lived subsequently. But Mr. Drummond maintains that the treasurer's clerk was right, and Mr. Carlyle is wrong, for Faenzone or Fanzone is to be found in painters' dictionaries, and that a painter of the same name was in Scotland at that time is quite certain. It is very curious but this portrait now so abhorred by Mr. Carlyle appears as the frontispiece to a lecture delivered a few years since by his friend Mr. Froude, in Edinburgh.

From what we have said, it will be plain that at present there is not much chance of settling the interesting question whether a genuine portrait of John Knox exists in Great Britain. When Mr. David Living (whose authority on the subject of Scottish portraits was testified to many years ago by Mr. Carlyle) was bringing out his edition of the works of Knox, he was very desirous of obtaining a portrait of the Reformer, but all inquiries failed to discover any undoubted original painting. This was in 1840, and on Monday night he said he was still satisfied that no original portrait of the Reformer was known to exist, unless as represented by the woodcut of Beza (1580) and the engraving by Hordius (1602).

THE last number of the *Journal des Economistes* contains an article by M. A. Chérot on the project of the Channel Tunnel, in which are discussed the questions as to whether the construction is practicable, and the enterprise likely to be profitable.

A submarine tunnel, he says, is only practicable if it can be carried through ground almost impermeable. Mr. Hawkshaw's geological researches have established this great fact. His borings, which he has carried to the depth of 585 feet, have disclosed directly under the water a compact mass of chalk more than 520 feet thick. The cliffs on both sides of the Straits of Dover belong to this formation—a fact which has led geologists to conclude that England and France had at a remote period been united by an isthmus, which the waters of the ocean have worn away on their passage to the North Sea. This stratum of chalk is well known in England where tunnels and other considerable works have already been executed. At the point where the submarine tunnel is projected the chalky mass is composed of an upper layer of white chalk and an under layer of grey or marly chalk, which is more compact and more impermeable. It is through this last layer, the thickness of which is 156 feet on the English, and 123 feet on the French coast, that it is proposed to carry the tunnel, should it be found that this layer is prolonged, to the whole breadth of the Straits. The tunnel will be 412 feet below the level of the sea at high water. On the other hand, soundings have proved that the greatest depth of sea in the Straits does not exceed 176 feet, and that this depth diminishes gradually towards the two coasts. The thickness of the chalk bed between the tunnel and the bottom of the sea will not be less than 60 metres or 195 feet.

In this way the tunnel will be composed of three parts, one carried under the sea for a length of nearly twenty-four miles, the other two, affording access to the railways on either side, will be slopes of about 7 miles in length. The total length of the underground communication will be 50 kilometres, or about 31 miles.

Is the layer of grey or marly chalk, in which it appears necessary to construct the tunnel, sufficiently exempt from infiltration? Does it extend from one side to the other without any break, fault, or interruption of the necessary continuity? This is the first part of the problem to be solved, and the most essential part. The English and French committees charged with the investigation propose to begin by digging on each side of the Straits very deep shafts, and from these shafts to run drift mines [*galeries d'essai*] under the sea for several miles. Should the results obtained confirm the anticipations which have been formed from the preparatory observations already made, a test gallery (*un boyau, ou galerie de reconnaissance*)—a gallery of observation—of some yards diameter, will be extended the whole length of the intended tunnel. Upon the result of this will depend the possibility of making the tunnel; and should the result be satisfactory, the gallery will only have to be enlarged to the requisite extent.

What length of time will be necessary for these preparatory investigations? and what time must elapse before the whole work is completed? Had we to base our calculations on the time the works occupied at Mont Cenis and St. Gothard, we should give up thoughts of the enterprise; but there is really no analogy whatever between the hard rocks of the Alps and the calcareous bottom of the Channel. And yet the length of the tunnel calls for a daily advance in the work of perforation, and that requires special processes. Industrial science will provide for these as surely as it did at Mont Cenis and St. Gothard. Even now there exists a perforating machine, invented by an English engineer, Mr. Branton, which secures the solution of the problem to the promoters of the tunnel. Two years, then, at most, may suffice for completing the *galerie de reconnaissance*, beginning at both ends; four years may see the whole undertaking completed; and, making allowance for unexpected hindrances, the tunnel may be in actual operation in the course of eight years. Keeping in view the preceding considerations, we are enabled to make an approximate estimate of the total expense, which will amount at least to 250 millions of francs, or ten millions sterling.

Granting the possibility of forming a subterranean communication under the waters of the Channel, and of accomplishing the work in a comparatively short time, attendant difficulties remain to be disposed of, which appear formidable to the public, but which engineers rightly make no great account of. Will the quantity of water which will flow into the parts of the tunnel to be dug in the cliffs at each end of it not be considerable? How are we to light up a subterranean communication of 31 miles, where the air cannot renew itself naturally? By what artificial means can we ventilate so great a length of tunnel? We already know that in the Mont Cenis tunnel, and even in tunnels of less extent, clouds of steam and smoke from the locomotives are attended with a certain amount of inconvenience, but what will happen under these vaults 400 feet under ground, and of a length seven or eight times greater than that of Mont Cenis? And what would be the consequence should a collision of trains take place in such a situation?

For our own part we confess that we have no apprehensions on any of these heads, nor do we think that any serious fear need be entertained. We are firmly convinced that modern industrial science will overcome all obstacles. What it may become necessary to invent will be invented, but at the present moment industrial science possesses resources which leave us little more to do than to study their skillful application. The question of drainage, for instance, is only a question of pumps and engines on the seashore. Is not the electric light free from the inconvenience attending lighting by gas? Artificial ventilation by means of compressed air is reduced to a question of mechanical power; the authors of the project calculate that a steam-engine of 250-horse power at each end of the tunnel will be sufficient. Undoubtedly men's minds are not yet made up to replace our present locomotives by an engine without their drawbacks; but who can tell if compressed air shall not be the motive force of the engine of the future? Locomotives in that case, instead of steam and

smoke, would give forth respirable air. Subterranean collisions, which now give rise to so much alarm, would no longer be to be feared. A collision could take place between trains moving on different lines; and a regulation issued by authority might render them equally impossible between trains following each other on the same line by prohibiting one train from entering the tunnel until the electric telegraph had announced that the preceding train had left it.

In fine, the question which least admits at present of a satisfactory answer is this—Is the Channel tunnel likely to be profitable; is it likely to pay? This is what mainly demands an answer at present. We answer without hesitation, yes! if we seek profit by the adoption of very moderate tariffs; no! if we hope to find profit in high fares. This assertion is in accordance with one of the acknowledged laws of political economy, a law to which this enterprise of the tunnel can form no exception. Facility, celerity, and cheapness in a new mode of transport develop without doubt relations and transactions, but this development only takes place when these three terms find themselves united. A bad or inconvenient road, though cheap, is unproductive; an easy communication, but expensive, attracts only a certain kind of traffic. The future belongs to the Suez Canal, because the shortening of the voyage, and the facilities it affords to navigation, have been attended as their direct consequence with a considerable diminution of freight. It will be all over with the submarine tunnel if the increased facility of communication is attended with a rise in the cost of transit. All speculative combinations which run counter to this law, which may be regarded as absolute, tend to nothing.

TOUGHENED GLASS.

THE *Times* Paris correspondent writes under date May 9:—You gave an account a few weeks ago of the discovery by M. François de la Bastie, a French engineer, of a process by which glass, while retaining its transparency, practically ceases to be brittle. Yesterday M. Victor de Luynes, who, with M. de Bastie's sanction, has for some weeks been making experiments at a glass manufactory, delivered a lecture on the subject at the annual meeting of the Société de Secours des Amis des Sciences. M. Dumas, the distinguished chemist and permanent secretary of the Académie des Sciences, presided, and the large amphitheatre of the Faculty of Arts at the Sorbonne was crowded, most of the members of scientific bodies and the chief glass manufacturers being among the audience. M. de la Bastie himself was also present. M. de Luynes explained the expansion and compression of the exterior and interior parts caused by immersing glass heated to a certain temperature in an oleaginous bath, and he gave some highly interesting proofs of the success of the process. Thus he applied some vigorous blows with a hammer to a piece of glass which in its ordinary condition must have been broken into fragments, but which sustained this violence without being any the worse for it. A small tube of thin twisted glass being fastened in a vice, he endeavoured to break off the extremity of it with a pair of pincers, but it was only after several attempts and by dint of much evident muscular exertion that he succeeded in doing so. A furnace, moreover, was brought into the hall, and a number of small globes and pieces of sheet glass were submitted to the toughening process. M. de Luynes then threw some of them on the floor to show that they could bear the shock. The globes were fastened by strings to staves of wood at various heights, and an assistant mounting a ladder and setting fire to the string they fell on the table with considerable force, thence rebounding on the floor, but only one or two of them were fractured, and those only when falling four or five yards. The assistant also mounted on a curved plate of glass placed on the table so as to represent an arc of a circle, but though the portion of the glass on which he stood was an inch or two above the table it bore the whole weight of his body. A similar experiment with much thinner glass was not so successful, but M. de Luynes stated that it had previously borne the strain, though it had been necessary for the assistant to mount upon it somewhat carefully so as to equalise the pressure as much as possible. Of course M. de la Bastie, as M. de Luynes explained, does not pretend that glass thus tempered is absolutely free from danger of breakage, but he claims that it will bear 80 or 100 times the strain of ordinary glass, and last night's experiments afforded conclusive evidence of the value of the discovery. The glass, moreover, it is stated, can be cut under certain conditions as easily as common glass.

THE SANITARY CONDITION OF EDINBURGH.

AT the last meeting of the Edinburgh Society of Arts (Mr. John Lessells being chairman) Councillor Gowans read a Paper on the sanitary condition of Edinburgh, and the best means of effecting improvements in this direction, in which he took occasion to reiterate the opinions and suggestions he has from time to time expressed on this important subject. For the effective carrying out of his plans, he would have in the first place, he explained, one controlling power—the Local Authority—which should be responsible for all arrangements for the health of the community. Proceeding to detail the principal features of his scheme, Mr. Gowans pointed out that the feuing plans of all new streets should be subject to the control of the Local Authority; that the whole burgh should have one uniform system of drainage; and that all main drains should be executed as well as repaired by the Local Authority, the cost of which should be charged against the owners of property. After explaining his plan for the ventilation of drains by means of shafts, and dwelling on the necessity of abolishing cesspools, Mr. Gowans concluded by some remarks as to the planning of houses. His main idea was that no drain should pass under a building, and to accomplish this he would have the house so planned as to provide that all water-closets, laths, and other conveniences be placed on the outer wall of the building, or on the outside altogether. Various criticisms on the Paper were offered by a number of those present, and on the motion of the chairman a cordial vote of thanks was accorded to Mr. Gowans for his communication.

THE PHILADELPHIA EXHIBITION.

ACCORDING to the latest accounts from Philadelphia, the preliminary work for the International Centennial Exposition of 1876 is making such rapid progress that there is little doubt felt of its success. Thirty-one of the leading nations of the world have accepted the President's invitation to participate, and many of them have already appointed Commissions to take charge of their affairs at the Exposition. The intention is to open the buildings to the public on May 10, 1876, and the progress made warrants the belief that they will be ready for occupancy before that time. The chief building is the permanent Memorial Hall, which is to be used as an art gallery, and which the contractor will have finished by New Year's Day. It was begun in July last, and is 365 by 210 feet, being constructed of granite. Already the walls are up, and a very large portion of the work is finished. The contract price for it is \$1,199,273, and it is built by Pennsylvania and Philadelphia, who have appropriated a fund of \$1,500,000 for this purpose. Work is also going on upon the Industrial Building, which is the main exhibition hall, 1,830 by 464 feet, built in a series of pavilions. This is a temporary structure, and will also be completed by New Year's Day, its cost being \$1,420,000. This building is not yet up, but the greater part of the material is on the ground, and the framework will be in position before September. There will be 3,928 tons of iron, nearly 250,000 square feet of glass, and over one million square feet of tin roofing used in this structure. The builder of both these structures is Mr. Richard J. Dobbins, and he has an army of mechanics at work upon them. The extreme cold and lateness of the winter have somewhat retarded the work on the ground, but at present it is industriously progressing. There is also to be a Machinery Hall, 1,402 by 360 feet, with an annexe, 208 by 210 feet, which is to cost \$542,300. The erection of this structure has begun, and nearly all the material for it is prepared, so that its completion is anticipated by October. A Horticultural Hall, 386 by 103 feet, of beautiful design, which is intended as a permanent structure, is to be built for \$263,937. It also is in course of erection and will be finished in September. An Agricultural Hall, 820 by 540 feet, is also contemplated, and the working drawings are completed, but no contract has yet been made for its erection. It will be begun in May and completed in September. There are thus five principal buildings, all of which are expected to be ready for occupancy by New Year's Day, and work on four of which is now progressing.

These buildings are contained in an enclosure of about 236 acres in Fairmount Park, into which railway lines lead from the Pennsylvania and other railroads terminating at Philadelphia. The railway arrangements which are being perfected will bring visitors direct from New York and other large cities to the doors of the Exposition. Every portion of this enclosure will be covered with different parts of the Exhibition, and seven miles of streets and avenues have been laid out in it to provide for the convenience of exhibitors and visitors. A complete system of drainage has been devised and is partially completed. To secure ample water supply special pumping works are to be erected on the Schuylkill River skirting the grounds, and 4,000,000 gallons of water will be furnished daily. The gas supply will also be ample. Special lines of street passenger railways are also being laid down, which will bring people from all parts of Philadelphia immediately to the entrances.

The financial statement of the Centennial Board of Finance, who have charge of the matter, shows that thus far they have received \$1,436,105, of which \$1,045,251 have been from instalments on stock paid by the subscribers to the Exhibition shares, and \$346,788 on account of the \$1,500,000 subscription by Pennsylvania and Philadelphia. They have expended \$797,211, of which \$542,711 was on account of the buildings, and they have \$638,894 cash in hand. The Board say that to complete the buildings and bear the expenses of the Exhibition to the close, they will have to raise \$3,500,000, but of raising this they speak very confidently. There has during the past few months been a very lively interest awakened in the subject in all parts of the country, and this is promoting the subscriptions.

Mr. Henry Blackburn lately delivered a lecture at the rooms of the Society for the Encouragement of the Fine Arts, Conduit Street, on "Art in America," with especial reference to the exhibition of English and foreign works of art in Philadelphia, in 1876, Colonel J. W. Forney, U.S. Commissioner, in the chair.

Mr. Blackburn pointed out that, as the fine arts would be largely represented, and, probably, three-fourths of the pictures would be from foreign sources, it behoved English artists to see that they were fairly represented. There would be every inducement to exhibit. The American people had a keen appreciation of the value of foreign works of Art; and as the import duty would not be levied, he trusted that the exhibition at Philadelphia would be a stepping-stone to the abolition of the tax for all time. As an argument for the abolition of customs' duties on works of art in America, Mr. Blackburn stated that the result of admitting English water colours to the National Academy in New York free of duty in 1873 had been to treble the sale of American water colours in 1875; in fact, that particular branch of art had flourished amongst them ever since. Mr. Blackburn further stated that the Society for Promoting American Exhibitions, which he established in 1873, sent the works of English artists to America free of cost, and it was hoped that the same arrangement would be made for the Philadelphia Exhibition in 1876.

After some remarks from Dr. Leitner, Mr. Edis, and Mr. A. H. Hill, Colonel Forney replied that, coming from a highly protective State like Pennsylvania, it was, of course, natural that he should heartily concur in her policy; but he considered free trade in art as one of the near probabilities, as America did not intend, as a free nation, to preserve a restrictive policy. He concluded by stating that, at the Philadelphia Exhibition, there would be a general contribution of paintings and other works of art from the several cities of America, and from American artists in all parts of the world.

RAILWAY COMMUNICATION WITH RICHMOND.

THE Metropolitan District Railway Company have this week succeeded in carrying through the Parliamentary Committee a Bill for the extension of their line from their present Hammersmith Station in the Broadway to the Shaftesbury Road Station of the South Western Railway. The object of the extension is to give more direct communication between the City and Richmond and the district. Evidence was given to show that the present route is circuitous and inconvenient, through the changing of carriages, and other delays. Several builders, landowners, and others were examined with the view of showing that in the event of the proposed line being made, building on a very extensive scale would take place in the neighbourhood of Richmond, Hammersmith, and other localities traversed by the proposed route. Although the new line is only half-a-mile in length, its estimated cost is 250,000*l*. The Bill was strongly opposed by the Great Western and Metropolitan Companies, chiefly on the ground that the Mansion House station at Cannon Street was not large enough to accommodate the expected traffic. The Fulham District Board of Works, and the Metropolitan Board of Works, also appeared as opponents, the latter body opposing on the ground that the levels and gradients of several streets in Hammersmith would be seriously interfered with by the alterations contemplated in carrying out the works, but the opposition was unsuccessful. Amongst the several witnesses examined to prove that a great impetus would be given to building in the district by the opening of the new line for traffic, was Mr. John Maxwell, of Richmond, one of the largest owners of property in the neighbourhood. He said that the population of Richmond was now more than 15,000, and was largely increasing. Between Richmond and the new route there was a considerable amount of agricultural land not built over, and if the proposed line were made building in that neighbourhood would be much developed, more especially on the Crown lands. He should say that the building there would enormously increase. Mr. Joseph Simms, a builder, who had resided at Richmond all his life, also stated that he believed if the new route was made it would be the means of largely developing the value of property in Richmond and the neighbourhood for building purposes. Mr. John Shields Gomme, another large owner of property, added, that he knew the country well between Gunnersbury and up to Richmond. There was a large amount of land there well adapted for building, which the proposed line would open out. The witness being asked his opinion as to the present Hammersmith Station of the South-Western Company, replied that he thought a more convenient station never could have been built. It was more like a treadmill. Mr. George Frederick Fry, Surveyor to the Strand Board of Works, residing at Acton, stated that between Acton and Gunnersbury, which the line would approach, there was a considerable amount of unoccupied building ground, which would be utilised for building purposes. It was all laid out, and only wanted a better transit to London to enable speculative builders to build on that line. Mr. George Brown, a builder, residing at Hammersmith, gave similar evidence as to the impetus which would be given to building in that part of Hammersmith, near Shaftesbury Road. Several other practical witnesses were called, who gave like testimony. The construction of the line will probably be accompanied by the enlargement of the Mansion House station, the Committee, in giving their sanction to the Bill, stating that if the Company had any powers by which the Mansion House station could be improved and enlarged such powers ought to be exercised.

POLLUTION OF RIVERS.

THE Marquis of Salisbury's Bill, introduced in the House of Lords, declares the following to be offences:—1. Putting or knowingly permitting to fall into any stream, in such quantities as to interfere with its due flow or to pollute its waters, the solid refuse of any manufactory, manufacturing process, quarry or mine, or any rubbish or cinders, or any other waste, or any putrid solid matter; 2. causing or knowingly permitting any solid or liquid sewage matter to fall or flow into any stream; but if this was being done before this year it will be no offence against this Bill to continue the practice if the best practicable and available means be used to detain such sewage matter or render it harmless; 3. causing or knowingly permitting to fall or flow into any stream any filthy, noxious or polluting liquid proceeding from any factory or manufacturing process; 4. causing or knowingly permitting to fall or flow into any stream any poisonous, noxious or polluting liquid proceeding from any mine. The last two classes of offences are subject to a proviso that if the acts described have been done by a person for a period immediately preceding the passing of this Bill, then, if such period be less than 12 years, he shall not for the next two years, or such further period as the Local Government Board may by order allow, be deemed to commit an offence against this Bill by continuing the practice, if he proves that he has used and continues to use the best practicable and available means to detain such liquid or render it harmless; or, if the period is twelve years or more, then the person, so proving as above stated, will not at any time be deemed to commit an offence this Bill. But nothing in this Bill is to legalise any act which but for the Bill would be deemed a nuisance. Offences may be restrained by summary order of the County Court. Proceedings are not to be taken against any person under this Bill for the first six months after it passes, or for a further period if the Local Government Board shall so order. "Stream" is to include the sea to such an extent as may be determined by the Local Government Board. The Board will have power on complaint to compel urban or rural sanitary authorities to enforce the Bill, or to appoint some person to institute proceedings against offenders. The Board will have power, by provisional order, to constitute one or more conservancy authorities for the catchment area of any river and its affluents. The Bill does not extend to Ireland.

The Canterbury Town Council have appointed a committee to arrange for the forthcoming visit of the Royal Archaeological Institute.

THE STRENGTH OF PINE TIMBER.

WE take the following from a Paper read before the Institution of Civil Engineers by Mr. C. Graham Smith.

Pine timber, one of the most abundant and useful of all woods, is found in one species or another nearly all over North America, and the countries bordering on, or in the vicinity of, the Baltic Sea.

Yellow, white, red, and pitch pine, as also white and black spruce, are imported from North America; that from the Baltic is invariably known as fir timber, and is usually named after the district or country in which it grows.

The yellow and white pines of America, although botanically different, are, in practice, looked upon as the same timber. It is not considered so durable as the Baltic fir when exposed to the weather in this country, but in its native land it seems to answer well; for the bridge over the Delaware, at Trenton, was constructed with this timber in 1804, and the Pennsylvania Railroad Company have only now, seventy years after its erection, considered it advisable to replace it by an iron structure. A cargo of this timber will consist of balks varying in length from 20 feet to 60 feet, and 40 to 80 cubic feet in content, the average scantling being about 16 inches by 16 inches, and short logs may be had exceeding 26 inches by 26 inches, but this is an exceptional size which commands a high price. If the balks composing a lot of this timber have an average content of 65 cubic feet, it may be bought at the market rate; and if $1\frac{1}{2}$ per cent. be added for each 5 feet above 65 feet and up to 80 cubic feet, a very fair approximation to the value of the wood will be obtained. It is much in request for pattern making, and other purposes requiring a soft, non-resinous, and easily worked wood; and has a good quality of retaining its form when subjected to heavy working strains.

The red pine of America, so named from its colour, is slightly harder than the yellow, and when exposed to damp is more durable. This, although an easily worked wood, is not used for such purposes as pattern making on account of its liability to twist and split, but when of good quality it is an excellent wood for masts and spars, being straight grained and tolerably free from knots. It is imported in balks up to 50 feet in length, and generally about 40 cubic feet in content; the approximate extra value for each 5 feet above this size is $1\frac{1}{2}$ per cent. up to 50 cubic feet. The average scantling is 10 inches by 10 inches, but it may be had in small quantities from 13 inches to 14 inches square.

Pitch pine, obtained from the Southern States of North America, is distinguished by the extremely large quantities of resin which it contains, and the distinctive character of its annual rings. In point of strength it is superior to yellow pine and Baltic fir to an extent of about 30 per cent., and is more durable than the former in positions subject to alternate wetness and dryness, but in a warm moist atmosphere it will very quickly rot; when totally immersed in water or buried underground it is supposed to be surpassed in durability by Baltic fir, although its use in these positions is of too recent a date for this to be borne out by experience. On account of the large amount of resin which this wood contains it will not take paint, neither is it considered a nice wood to work; for these reasons and on account of its dearthness, it has not been much used excepting in the balk, and by joiners for stairs and flooring boards. It is imported in balks averaging 16 inches by 16 inches, and varying in length from 40 feet to 70 feet. The market average is about 80 cubic feet, and the approximate extra value for each 5 feet above this is $1\frac{1}{2}$ per cent. up to 100 cubic feet; but special sizes up to 150 cubic feet may be obtained at high prices. There now being large quantities in the market its price is considerably reduced, and it is consequently coming very much more into use.

American white and black spruce, distinguished by the colour of its bark, is a species of white wood which forms a good tough material for temporary work; but should not be used in permanent situations, as it shrinks, warps, cracks, and is very liable to rot when exposed to warmth or damp. This timber is imported in deals which are used for joists in inferior houses, also in balks varying from 30 cubic feet to 50 cubic feet in content, but more frequently in unbarked round logs, 9 inches to 12 inches in diameter at the butt, and varying in length from 20 feet to 50 feet; it is much used for ship spars and other analogous purposes, in which case the bark is generally left on until the wood is cut up for use, this is said to preserve it from the rot and otherwise improve it; but when exposed to the weather it will not last more than five or six years unless kept properly painted or varnished.

Baltic fir contains no small quantity of resin, and is somewhat similar in appearance and texture to pitch pine. It is slightly stronger, tougher, and when used in this country more durable than American yellow pine. The colour of this wood is dependent on the climate and soil in which it is grown, and varies from light yellow to red, but when named by colour considerable ambiguity is caused, as in England it is designated either red or yellow according to local custom. It is an excellent material when employed in dry and well ventilated situations, or when completely underground or water; still, like most other woods, it does not answer well in damp situations to which the air has access. Memel is considered to be the most durable of the whole pine class; balks of this timber, as well as those from Riga, Sweden, and Norway, do not much exceed 14 inches by 14 inches by 40 feet in length, but this size may be obtained at the market rate. The timber from the north-western provinces of Prussia may be had from 18 inches to 20 inches square and 50 feet in length without much additional cost; but in order that there may be little sap wood and the logs be made as parallel as possible, it is usually cross cut into lengths varying from 20 feet to 30 feet.

In newly sawn pine timber the sap and heart wood are generally very clearly defined; and when the balks are lying in the yard the quantity of sap wood may be roughly estimated in the early morning, as the dew will cause it to have a moist appearance whilst the more matured timber will be quite dry.

The Baltic spruce is not so tough as that obtained from America, but is generally considered to be more durable; still there is little choice between them, both being equally unfit for any permanent work unless thoroughly

seasoned and kept perfectly dry, but not warm. This timber is largely imported from Norway, and being often 45 feet or more in length and only 8 inches or 9 inches in diameter at its thickest part, is extensively used for scaffold poles, ladders, and mine props.

In the building trade there are certain favourite scantlings for joists, planks, roof spars, and other portions of a structure; merchants, therefore, frequently ship a cargo of pine or spruce cut into planks, deals, and battens of these sizes. Planks, deals, and battens are usually 11 inches, 9 inches, and 7 inches in width respectively, by $2\frac{1}{4}$ inches to 3 inches in thickness, and sometimes they are cut 4 inches, but this is an exceptional size; although latterly many have been imported 6 inches thick and designated the "double deal." One great advantage to be derived from employing this foreign cut timber is that it is very much more seasoned than when imported in whole logs.

Galileo was among the first to investigate the strength of wooden beams on purely mathematical principles; and, like many later investigators, after employing the higher mathematics to an unlimited extent, arrived at conclusions incompatible with practice. To use Tredgold's words, "fortunately that precision so essential to the philosopher is not absolutely necessary to the architect and engineer," consequently simple formulae, such as $W = C \frac{bd^2}{L}$, may be resorted to in practice. These formulae are

generally deduced from actual experiment in the manner somewhat as follows:—If a beam of b inches in breadth, d inches in depth, and L feet clear span, breaks with a weight W in cwts. applied at the centre, it is not difficult to determine in what ratio the strength of another beam of the same material will vary; if the breadth be double it is at once evident that its strength is doubled, if its length be double its strength is practically halved, and if its depth be double its strength will be increased four times; for these reasons the sectional areas in tension and compression, as well as the distance apart of their centres of gravity are doubled, consequently the moment of resistance of the beam is increased four times, and similarly by using any other depth it will be found that this moment varies as the square of the depth. The breaking weight, therefore, varies directly as the breadth and square of the depth, and inversely as the length, therefore $W \propto \frac{bd^2}{L}$. Now it is well known that the adhesion of the

particles or fibres to one another affect the strength of a beam, to an extent which can only be determined by introducing an unknown quantity; W therefore becomes equal to $C \frac{bd^2}{L}$, where C is the unknown, but nearly

constant, quantity, the value of which can be ascertained only by actual experiment. But since the strengths of no two beams of the same timber and scantling are precisely the same, it follows that no two constants will be equal in value; this accounts, to some extent, for the variety of scantlings employed for one and the same purpose. A short time since a warehouse floor gave way, and the engineers employed on opposite sides of the law action which ensued had little difficulty, by using the extremes of constants, in making their calculations suit the wishes of their respective clients. The floor was thus shown on good authority to be at the same time both amply strong and too weak; under these circumstances the only course to pursue was to call in an independent witness, who not being content to accept a constant which might at any time be disputed, had a beam from the floor in question tested, deduced a constant from the result, and gave his evidence accordingly. As the quality of timber varies very considerably, even in the same cargo, before employing it in work of any magnitude, one or more average samples should be tested, and a constant deduced on which all calculations for the strength of the timber may be based. This method is pursued by Mr. Lyster, engineer-in-chief to the Mersey Docks and Harbour Board; and as it has been his practice for many years past, he is now in possession of some very valuable results, a few of which, by his kind permission, are put before you.

The experiments given have been selected on account of their being so far as the author can learn, the largest scantlings ever tested. The constants of Tredgold, Barlow, and others were obtained by testing small pieces of timber, in selecting which it has evidently gone against the conscience of the investigators to take those cross-grained and containing knots; but timber of any size has always more or less of these blemishes, consequently their constants give a strength to timber which cannot be attained in actual work. It will be found that in Experiment No. 1, a best selected Memel fir beam, 13 $\frac{1}{2}$ inches by 13 $\frac{1}{2}$ inches, with 10 feet 6 inches clear span, practically gave way with a distributed load of 56 tons, and finally broke down with 61 tons; whilst the distributed breaking weight of this beam, found by employing the constant for Memel given by Tredgold, is 114 tons, and by that of Barlow 120 tons; similar results will be obtained if the remaining experiments be compared with the same or other authorities.

Constants deduced from testing large pieces of timber will be found below, and it is the author's opinion that these will give results approximating very closely to ordinary practice; there will be little difficulty in deducing from them other constants for beams loaded or supported in any way whatever; or even for columns which are of such proportions that they give way wholly by flexure.

The deflection of timber which is to be used in a permanent structure need hardly be considered, so long as factors of safety of eight or ten are adhered to, for up to one-fifth of the breaking load it is certainly not excessive.

The accuracy of the following results is beyond question; for the experiments were carried out in accordance with instruction from the engineer to the Mersey Dock Board under the supervision of the resident engineer at Birkenhead.

The tests by hydraulic machinery were made at the Birkenhead Chain Test Works belonging to the Dock Board. This machinery is so arranged that it is checked by three separate and independent appliances, all of which were accurately adjusted. Firstly, by a lever and dial, the lever being actuated by a small metal ram worked direct from the pressure on the cylinders of the strain being registered on the dial. Secondly, by dead

weights lifted by a small ram, which is also worked direct from the pressure in the cylinders. And lastly, by dead-weighted levers working on knife edge centres up to 100 tons. The machinery was constructed by Sir William Armstrong & Co., and is fully up to their usual standard of workmanship.

The constants deduced or given are intended to be employed in the formula $W = \frac{Cbd^2}{L}$ where W = the breaking weight at centre in cwt., b = breadth in inches, d = depth in inches, and L = clear span.

Summary of Timber Experiments.

Species of Timber.	Scantling.	Clear Span.	Number of Beams Tested.	Average Break-load applied at Centre.	Average value of C in $W = \frac{Cbd^2}{L}$.	Remarks.
Baltic Spruce	12 1/2 x 12 1/2	10 6	2	30-50	2-80	Distributed load. " " Load applied at centre by means of hydraulic machinery.
Quebec yellow pine	14 x 15	10 6	2	30-50	3-03	
Baltic fir (average)	6 x 12	12 3	2	9-50	3-70	
Pitch pine	6 x 12	12 3	2	10-25	3-93	
American red pine	6 x 12	12 3	2	8-00	3-27	
Pitch pine	14 x 18	10 6	2	60-00	4-00	
Quebec yellow pine	14 x 15	10 6	2	36-00	2-40	

From a careful study of many experiments on both large and small scantlings of timber, and taking into consideration that sap wood is generally more or less present in most beams, the author would advise that the following constants be employed in ordinary work:—

Baltic fir, when of best quality, 2-6; second rate, 2-3.

Canadian yellow pine, 2-2.

Pitch pine, 2-4.

American red pine, 2-3.

METROPOLITAN MORTAR.

THE following circular has been sent by the Superintending Architect of the Metropolitan Board of Works to the various District Surveyors. A report of the case referred to appeared in the *Architect* of April 17.

Dear Sir,—A case has occurred at Hammersmith, in which the District Surveyor has succeeded in obtaining a conviction against a builder, who constructed a building with refuse or earth, instead of mortar properly compounded with lime and clean sand; and I beg to call your attention to the circumstances, in order that you may be enabled to adopt similar proceedings, when any builder fails to amend his work or materials, when called upon by you to do so.

A house was built with mortar, mixed with mud and horse dung; and the District Surveyor summoned the builder to show cause why the building should not be demolished.

The magistrate asked, What is mortar? and why it was not defined?

It was shown by reference to scientific books that "mortar" was a technical term, intended to indicate a composition consisting of two essential ingredients, lime and clean sand, in the proportion of one part of lime to three, and sometimes two, of sand, mixed and worked up with water into a suitable consistency, to cause the layers of brickwork to be bound together, when the mortar chemically sets. A definition of such a material was not deemed requisite, as properly qualified persons were directed by the Act to be examined by the Royal Institute of British Architects, and could only be appointed as officers by the Board after obtaining a certificate of competency to perform the duties.

A specimen of the stuff was produced, and the magistrate said it was not in his opinion mortar, and was unlike anything he ever saw before. He, therefore, accepted the scientific opinion, and ordered the demolition of the work.

It thus would appear, that if a case is well stated, and its technical bearings explained, an effectual support of the public officer in the performance of his duty may be expected; and the builder who would tamper with the law, and produce an inferior structure, through insufficient materials or careless workmanship, would be checked.

Sometimes it is also alleged that the District Surveyor cannot control the brickwork used with or without bad mortar; but if care be taken to bring specimens before the magistrate, he cannot fail to see that if soft and defective or broken bricks are used, such bricks are not fitted to form bonded work, where strength and security of construction are demanded. If such materials were attempted to be used under an architect's specification, and contrary thereto, they would certainly and properly be disallowed.

Yours faithfully,

GEORGE VULLIAMY,
Superintending Architect.

Memo.—In a case of gross infringement of the Act with respect to the materials, notice should be sent to the Board.

THE LONDON SCHOOL BOARD.

AT the meeting of the London School Board on Wednesday, the finance committee reported that on April 14 the board had passed a resolution to borrow a further sum not exceeding 144,220*l.* from the Public Works Loan Commissioners. The sum, however, actually borrowed under the above resolution was reduced to 139,120*l.*, making in all 1,344,046*l.* borrowed by the board from the commissioners. This sum was now exhausted, and additional payments for purchase of sites and erection of school buildings thereon, were becoming due with great rapidity. The finance committee, therefore, recommended the board to borrow a further sum of 74,700*l.* Independently of this amount, 50,000*l.* had been borrowed from the Metropolitan Board of Works. It was proposed to repay

this sum, with interest at 3*l.* 10*s.* per cent. per annum, by 50 equal annual instalments.

The Rev. Dr. IRONS asked whether the money was already spent, or whether they would have anything in hand when spent?

Mr. FREEMAN, chairman of the committee, said he was sorry to state it was spent. Contracts for land and schools had been entered into far beyond the 1,418,746*l.* mentioned in the report. The recommendation was adopted.

It was unanimously agreed to build a school for 1,104 children, on a site to be obtained in place of the site in Shepherd's Lane, Brixton, upon which a school for 720 children was to have been erected. Several of the Lambeth members agreed that the school was urgently needed.

AUTHORISED IMPROVEMENTS BY THE METROPOLITAN BOARD OF WORKS.

BY the Bill of the Metropolitan Board of Works, which has just received Parliamentary sanction, they are authorised, in connection with the Council of the Duchy of Lancaster, to widen Savoy Street by setting back the east fence of the burial ground belonging to the Chapel Royal of the Savoy, and the east wall of a house in the Strand, and by adding to the street part of the site of the German Lutheran Chapel. The powers also include the extension of Savoy Street to the Thames Embankment. For the purposes of the Act they are likewise empowered to remove the coffins and remains from the Chapel and burial ground of the German Lutheran Chapel, and re-inter them elsewhere; also to appropriate and use for building or other purposes part of the site of the chapel, and the whole or part of the burial ground, minister's house, and school house, and to enter into arrangements for providing the buildings elsewhere in substitution for the chapel, minister's house, and schools. The Bill also contains a clause modifying the 28th section of the Thames Embankment Act of 1862, so as to allow the authorities of the Middle and Inner Temple, in the contemplated extension of Harcourt Buildings, to erect two ornamental towers, two ornamental bay windows, and two piers and arches, projecting 10 feet in the direction of the Embankment beyond the line named in the Embankment Act of 1862. The Bill also contains a clause empowering the Board to pay off the Deptford Creek Bridge Company, abolish the tolls, and throw the bridge open free to the public.



Love's Labours Lost.

SIR,—Mr. Godwin seems from his article of the 1st inst. not aware that this play is founded on an actual incident of history. In the early part of the reign of Francis I., his sister Marguerite, then, I think, Duchesse d'Alençon, was sent on an embassy to the King of Navarre. In later years she became, by a second marriage with Henry d'Albret, Queen of Navarre, under which name she is known as the authoress of the "Hep-tameron."

Though the marriage was, as far as I know, in no way the result of the embassy, it is easy to understand how the romantic story may have arisen.

Particular interest would at the date have attached to this marriage from the fact of the daughter and grandson of the pair having been the famous Protestant Jeanne d'Albret and Henry IV.

I write from memory, having no means at hand for giving the precise chapter and verse of the occurrence, but apprehend particulars may be found in any good commentary on the plays or history of France.

I will point out, however, that as regards costume, the Court of Navarre, being thoroughly Gascon, would follow France rather than Spain. The name Ferdinand is no doubt a mistake, arising as Mr. Godwin suggests; the name of Biron is taken from that of the famous companion-in-arms of Henry IV., whose career gave rise to Chapman's tragedy, "Biron's Conspiracy."

I am, Sir, faithfully yours,

RALPH NEVILL, F.S.A.

Ventilation.

SIR,—Considerable interest has been excited amongst engineers on the subject of ventilation as introduced by Mr. Martin Tobin, and noticed in the *Times* of the 12th ult., and in his subsequent letters. Mr. Tobin arrogates to his system a merit it does not possess—that of originality. If you will kindly grant me a portion of your valuable space, I believe I shall be able to show, first, that there is very little of novelty in Mr. Tobin's system, and, secondly, that the notice of the same in the *Times*, in pointing out where Mr. Tobin's mode needs modification, endorses a previously existing system. The writer commences by asserting that "all sanitary reformers have generally been guided by the erroneous assumption that vitiated air being heated would not only ascend, but would escape by outlets in the upper parts of the chamber. Further, that where such outlets are made, the heavier air descends, pushing aside that which is warmer

and lighter, and coming down in a stream, like water poured from a jug, on to the heads of the unfortunates beneath."

This is unquestionably so where the outlets are not scientifically constructed. But the article was evidently written in ignorance of the fact that a patent was taken out by the late Mr. Thomas Boyle, of London, some years since, for an outlet ventilator, which in use altogether precludes the possibility of such a state of things as the article referred to describes.

These outlet ventilators, to be fixed immediately beneath the ceiling line into smoke flues, or air shafts, specially constructed, are provided with a series of exceedingly sensitive valves, cut out of sheet mica and fixed externally on inclined planes. The valves admit of the outward passage of the warm vitiated air, but close hermetically against any incurrent of cold air.

Mr. Boyle relied for the exercise of motive power upon these valve ventilators, on the in-currents of cold heavier external air that find their way in around the windows and doors of every chamber, and by their greater gravity lift the lighter internal air, and expel it through the openings covered by the mica valves.

Where the in-currents by this very general means have been found insufficient, Mr. Boyle's mode was to introduce greater currents by openings cut through the outer walls, close down to the floor. Externally, these openings were covered by an air brick, and internally by, first, a disc of fine wire gauze, and second, by a rotary metal disc (brass or iron), working vertically in line with the wall upon a centre screw, which, as the air percolated gently through the wire gauze, was diffused by the metal disc along the surface of the wall, thus effectually preventing any direct in-current or draught, and this combined system of inlet and outlet has thoroughly purified chambers in many thousands of instances.

Mr. Boyle applied the term "natural ventilation" to his system, it being in obedience to a natural law. The writer goes on to state that "Mr. Tobin's experiments led him to the conclusion that the prevailing notions about the necessity for carefully-planned outlets were fallacious, and that if proper inlets are provided, the outlets may generally be left to take care of themselves."

Mr. Boyle's experience, however, proved to him that where proper outlets were provided, the inlets were the things that might be left to themselves. The air in a chamber is not compressible beyond the actual atmospheric pressure, and the volume of air consumed in respiration is very trifling, but the quality is intensely impoverished in the operation. Hence it follows that in a chamber without adequate outlets to carry off the vitiated air, the incoming supply of fresh air would only be equivalent to that exhausted in respiration, and would not be sufficient to keep up the equilibrium. Thus the chamber would gradually become filled with a poisonous atmosphere.

The experiments tried by Mr. Tobin, of sitting under his system in a closed chamber for several hours with gas burning, and not being able to detect any deterioration in the quality of the air he breathed, is not, in my opinion, conclusive, and was probably due to two causes—one, that the greater part of the heated air was lifted by his cold in-current to the point near the ceiling, and the other, that expressed in the commencement of the notice in the *Times*, that "the lungs are soon rendered insensible by custom to the foulness of the air they breathe." The crucial test would be to analyse a cubic foot of air before and after an experiment so conducted, and judge by the provings.

Mr. Tobin, in his illustration, observed that the incoming stream of water kept together till it met with an obstruction, and then only did it separate. This would probably be so. The small stream was no doubt slightly higher in temperature than the deeper pond, and, coming in with a certain degree of force, would be buoyed up and carried in line upon the pond's surface.

There is no analogy between this illustration and a column of cold air being forced vertically by atmospheric pressure into a room filled with air at a much higher temperature, and delivered at a height of five feet from the ground; the result in the latter would be much the same as though the air was admitted at the top of the chamber. By virtue of its own gravity the air would still find its way down in a cold stream upon the heads of the occupants beneath.

The notice in the *Times* goes on to state that in an experiment conducted in a room at Leeds in which the construction of the windows rendered it necessary to make the inlets much higher up than usual, under certain conditions a considerable stream of cold air actually was reflected downwards from the ceiling. Further, that to prevent such an occurrence the inlet should be as low down as possible, that the force of the stream may be expended before the ceiling is reached, and that where this cannot be done the current should be broken by strainers of wire gauze.

Now Mr. Boyle in his excellent system has met these contingencies in keeping his inlets as low as possible—namely, near the floor, and introducing wire-gauze strainers, thus anticipating Mr. Tobin's system. Mr. Boyle's patented system of ventilation still continues to be largely manufactured by the firm of Messrs. Comyn, Ching & Co.

I humbly submit it is clearly shown that there is nothing novel in Mr. Tobin's system, the only difference between his and that of the late Mr. Boyle being in degree—namely, that Mr. Tobin brings in air at five feet from the ground instead of on the floor line, and that the notice in the *Times*, in qualifying Mr. Tobin's plan on the Leeds experiment, suggested virtually the adoption of Mr. Boyle's system on the question of inlets.

Mr. Boyle had, however, the manifest superiority of the combined inlet and outlet, and experience proves that his system is applicable, and what is more efficient in every case where ventilation is needed. The public interest excited just now on the subject of ventilation must plead my excuse for troubling you with so long a letter.

Your obedient servant,
JAMES FRANCES HILL.

29 Bassett Street, Kentish Town, May 10, 1875.

Thomas Girtin.

SIR,—Permit me to correct a slight inaccuracy which appears in the interesting article on Thomas Girtin in last week's impression. Mr. G. W. H. Girtin is mentioned as the artist's "son," whereas it should be "grandson," the only son of the artist having died last year.

Your obedient servant,
G.

May 10, 1875.

General

The Royal Scottish Academy Exhibition which closed on Saturday last has been exceptionally successful, as the sales of paintings reached 9,011*l.*, the largest amount it is believed ever realised in a provincial exhibition. Last year the amount realised from the sale of 269 pictures was 8,240*l.* 11*s.* 6*d.*; and in 1873, 278 pictures sold for 6,675*l.* 5*s.*

The Lincoln Diocesan Architectural Society are to meet at Grantham on June 16 and 17. Sir Gilbert Scott has been requested to read a Paper on St. Wolfran's Church. The Archdeacon of Stow, Dr. Trollope, has promised a Paper on church spires.

An Art Loan Exhibition is to be opened in Winchester on the 31st inst.

The Additions to the roll of the Institution of Civil Engineers during the session, have included 3 honorary members, 33 members, 176 associates (of whom 22 were previously students), and 91 students. The register now contains the names of 16 honorary members, 835 members, 1,469 associates, and 339 students, making a total of 2,659, as against 15,809, 1,344, and 300, together 2,468 at the same time last year, there having thus been a net increase of 191, or about 7½ per cent.

Mr. J. Chamberlain (the Mayor of Birmingham) on Tuesday presented 1,000*l.* to the Corporation for the purchase of examples of art manufacture to be placed in the Public Art Gallery. The Corporation have resolved to expend 8,276*l.* for the extension of the Art Gallery and Free Library.

Mr. Staurope has accepted a commission to engrave Miss Thompson's *Quatre Bras*, as a companion to the *Roll Call* in last year's Academy Exhibition.

Count de Vogue has been appointed French Ambassador to Vienna.

Mr. C. W. Deschamps has purchased the London business of M. Durand-Ruel, in New Bond Street. The exhibitions organised by M. Durand-Ruel will be continued, and it is expected that next winter the fine collection of drawings by the late Jean Francois Millet, now on view in Paris, will be exhibited.

Lord Northbrook has directed that a Memorial Obelisk should be erected, at his expense, at Lucknow, in memory of the faithful native soldiers who fell during the Mutiny. The work has been entrusted to Mr. Llewellyn, of Calcutta.

The Bishop of Lincoln gave a lecture on Wednesday evening in St. Mary's Church, Nottingham, "On the True Character and Functions of the Arts of Painting, Sculpture, and Architecture." The lecture was delivered in connection with the movement for restoring Nottingham Castle and converting it into an art museum.

Mr. S. Horner has been instructed by the Memorial Committee to prepare a model for the statue of the late John Laird, M.P., which is to be erected in Birkenhead.

A Free Library is to be erected in Newcastle.

A Hospital is to be erected in Glasgow for the infirm burgesses of the city, funds for the purpose having been bequeathed by the Messrs. Buchanan, of Bellfield.

The Public Parks and Open Spaces, under the control of the Metropolitan Board of Works, have, during the year 1874, required the following expenditure for conservation:—Finsbury Park, 2,760*l.* 1*s.* 6*d.*; Southwark Park, 1,818*l.* 14*s.* 3*d.*; Victoria Embankment Gardens, 792*l.* 19*s.* 11*d.*; Hampstead Heath, 521*l.* 15*s.* 4*d.*; Blackheath, 535*l.* 18*s.* 7*d.*; Hackney Commons (London Fields, &c.), 284*l.* 16*s.* 8*d.*; Shepherd's Bush, 86*l.* 2*s.* 9*d.*; Tooting Common, 90*l.* 12*s.* 2*d.*; Leicester Square, 256*l.* 0*s.* 8*d.*. The total net cost was 7,137*l.* 1*s.* 9*d.*

A Correspondent of the *Times*, writing from San Francisco, states that now there is a great demand for men belonging to the various trades employed in housebuilding. Most of the houses throughout the State are built entirely of wood, but within a certain distance of the centre of the city all new buildings are to be constructed of brick, stone, or iron. House carpenters command 14*s.* 6*d.* a day; bricklayers and masons, 16*s.* 8*d.* to 20*s.* 10*d.* a day; house painters, paper-hangers, and glaziers, 14*s.* 6*d.*; plasterers and plumbers, 16*s.* 8*d.*; upholsterers, 16*s.* 8*d.* to 25*s.* a day.

The Old Town Wall of Alnwick has been discovered while excavating the foundations for some new workmen's cottages which the Duke of Northumberland is erecting in Hotspur Street.

The Council of the Hartley Institution, at Southampton, have petitioned Parliament against the projected alterations in the New Forest which may ultimately lead to its enclosure. They pray that such steps may be taken as will make the New Forest a national park, so as to preserve its value as a great field for artists and art study.

The Southampton Town Council have resolved to buy the works of the Gas Company. The price to be paid is twenty-four years purchase.

The Birmingham Corporation have presented a special vote of thanks to Mr. J. Anderson Rose, of London, for allowing his splendid collection of etchings to be exhibited in the Art Gallery. The collection was visited by about 100,000 persons.

The Architect.

THE ANNUAL REPORT OF THE METROPOLITAN BOARD OF WORKS.



THE Report of the Proceedings of the Metropolitan Board of Works for the year 1874 has just been published, and we need scarcely say it is full of matter of great interest to the inhabitants of London. Indeed this seems to be more particularly the case on this occasion, because of the opportunity being taken for presenting to the public a somewhat elaborate statement of the general work of the Board—we may almost say from the period of the commencement of its operations nearly twenty years ago.

When any governing body is found to offer gratuitously to its constituency an exposition like this of its successes—for it is only to be expected of human nature that whatever incidental failures there may have been should be artistically thrown into shade—cynical people are apt to say it is endeavouring to discover for itself a *raison d'être*, if they do not even go a little farther and apply the proverb *Qui s'excuse s'accuse*. The somewhat bulky report, therefore, which we have before us may possibly, for what we know, be capable of being picked to pieces by the opponents of the great municipal corporation of Spring Gardens with a much greater amount of ease than that with which it has been woven together by hands which are evidently expert enough at the business. We cannot pretend to say that our own perusal of its one hundred and forty-six pages has been such as to qualify us to pass an opinion upon those real merits which in such a document are generally supposed to lie beneath the apparent. We can at any rate venture to express what will no doubt be a very common feeling of astonishment at the vast amount of work which the Metropolitan Board seems to be expected to do, and to add the hope that the performance of that work is as genuine as it ought to be; although how it is that six-and-forty gentlemen, who are almost all of them said to be actively engaged in trade from day to day, to say nothing of other public engagements, can find time to attend to all that is set forth in the Report is more than can be easily understood.

Before the Report has got through much more than half-a-dozen lines we are put in possession of the astounding information that the Board "exercises its various powers in the Metropolis" under no less than seventy-eight Acts of Parliament, and we are forthwith furnished with actual particulars of the whole number. Of Metropolis Management Acts, there are four; Main Drainage Acts, eight; Loans Acts, five; Coal and Wine Duties Acts, five; Thames Embankment Acts, twelve; Improvement Acts, ten; Building Acts, three; Parks, Commons, and Open Spaces Acts, twelve; Gas Acts, six; Water Act, one; Fire Brigade Act, one; and Various Acts relating to Roads, Railways, Subways, Tramways, Locomotives, Slaughter-houses, Petroleum, Contagious Diseases of Animals, Infant-life Protection, and Superannuation of Officers, eleven. Moreover it is plainly stated that the number of these statutes is being still augmented, and the variety of their subjects increased, year by year. This being so, we wonder how many more of our Governing Corporations carry such a load upon their shoulders, and how many Acts of Parliament it may be supposed to take to furnish at length the last legislative straw by which even the back of a Metropolitan Board may be broken.

The annual expenditure of the Board appears to be at present 827,193*l.*, made up of rates, 458,481*l.*, coal and wine duties, 233,000*l.*, and miscellaneous receipts, 135,712*l.* Besides this large revenue it seems that nearly fifteen and a half millions of money have been raised by loan during the last eighteen years, and all expended. The sewerage of London has occasioned the borrowing of over five millions and a quarter; the Thames Embankments over two millions; Queen Victoria Street two millions and a quarter; the new Charing Cross Approach, 616,750*l.*; Southwark Street, 400,000*l.*; various other new streets, in all over two millions; Finsbury Park, Southwark Park, Hampstead Heath, Victoria Park (additional land only), Tooting Beck Common, and other open spaces, 323,675*l.*; High Street, Kensington, 183,696*l.*; Whitechapel Improvements, 232,500*l.*; Park Lane Improvements, 140,000*l.*; and so on down to Leicester Square, 225*l.*; whilst 275,000*l.* represents the paying off of the debt of the old Commissioners of Sewers, the predecessors of the present Board; and 115,000*l.* is the outlay for establishing the Fire Brigade. It has also to be noted that no less than 957,003*l.* stands for loans which have been in reality raised on the credit of the Metropolitan Board for various local Boards and Vestries, besides that 405,190*l.* has been directly expended for apparently kindred purposes. Then again, out of the total of fifteen-and-a-half millions credit has to be given for nearly three-and-a-half millions which have been repaid, whilst another million-and-a-half is

the value of the building ground not yet disposed of on the various lines of new streets. It must be owned, moreover, that these figures are only such as appear on the surface of the accounts; and if they should afford, as they very possibly may, but an imperfect indication of the facts that lie beneath, we can do no more than fall back upon the well known principle whereby the greatest perfection of scientific accountants is said to result in the most thorough confusion of the accounts to the unscientific mind.

But regard them as we may, it is needless to suggest that figures such as we have quoted are truly stupendous, as representing the financial transactions of the little local parliament which sits at Spring Gardens. But we are obliged to add that the amount of personal labour which has to be expended upon these and other affairs of the Board is proportionably almost quite as wonderful. Indeed, the Finance Committee is but one of at least a dozen equally important committees of about fifteen members each, which are always at work, and whose private meetings during the year 1874 tell up in all to a total of 287, besides that there have been 44 meetings of the whole Board in public. It is plain that this gives, excluding holidays, about eight meetings per week throughout the year; and, seeing that they are all held in the best hours of the day, and that the members have to come to Charing Cross as an accepted central point, literally from every parish in London and the suburbs, from Woolwich to Roehampton, and from the Crystal Palace to Hampstead, and remembering moreover that the subjects of discussion are almost invariably such as must not only excite the interest of responsible administrators, but frequently awaken a small amount of local and individual antagonism, and thus produce constant watchfulness, sustained controversy, and prolonged sittings, we can only repeat the expression of a little astonishment at the idea of so vast and multifarious an amount of work being accomplished by a small number of men who do not even belong to the orders of leisure, but have, as a rule, their private incomes to earn besides at their own places of business. It is no secret that exception has been taken in Parliament and elsewhere to the social rank of the majority of the members of this most important public authority; but this at least it seems difficult to deny—that if the whole volume of business which the Metropolitan Board, as at present constituted, professes to do is well done, it is idle to speak of higher social status being a qualification which ought to be brought into the question.

If we glance, however hastily, at the actual achievements which the Metropolitan Board can boast of having accomplished in whole or part during its period of office, we find that those grand undertakings the Main Drainage of London and the Embankment of the Thames have been practically completed, although no doubt it will be a problem for the ingenuity of ages to come how to carry forward still more and more both the one and the other of these gigantic enterprises. As regards the formation of new thoroughfares, we learn from the Report that Garrick Street was opened to public traffic in 1861; Burdett Road in 1862; Southwark Street in 1864; Holborn (Middle Row) in 1867; High Street, Kensington, and Albert Embankment in 1869; Commercial Road, Whitechapel, and Victoria Embankment in 1870; Park Lane and Queen Victoria Street in 1871; Seymour Place (Stingo Lane), Marylebone, in 1872; and Chelsea Embankment in 1874. The improvements still in hand are the Charing Cross (Northumberland House) Approach, Wapping High Street, the Shoreditch and Old Street Road thoroughfare, that from Old Street to New Oxford Street, the Harrow Road, and the widening of Newington Butts.

It is scarcely less interesting to note the successes of the Board in respect of the creation and preservation of what are called "open spaces." Here we have to reckon as accomplished facts Finsbury Park, Southwark Park, Hampstead Heath, Blackheath, the gardens of the Thames Embankments, Leicester Square, London Fields, Hackney Downs and Common, North Mill and South Mill Fields by the River Lee, the Commons of Shepherd's Bush, Clapton, and Stoke Newington, and Tooting Beck Common; and the Board is still negotiating for Clapham Common, Tooting Graveney Common, and Bostal Heath near Plumstead.

As regards other subjects of interest we can only find space to remark that in the year 1874 the Metropolitan Board brought before Parliament three bills of its own, namely, one for certain new roads and drainage which was passed, one for dealing with Leicester Square which was also passed, and one for amending the Building Act, which was rejected. But it also became the duty of the Board to watch a good many other bills. These seem to have had reference to Kew and other bridges, the slaughter houses of the Metropolis, the Amendment of the Metropolis Management Act, the various projected railways in London, the proposed formation of certain new streets by private enterprise, and the use of locomotives on roads. All this must be considered to have brought about a good deal of work for the Parliamentary Committee of the Board, and on the whole it would appear as if in this department as in others the action taken had been sufficiently satisfactory for the public interest.

If we were able to enter upon the description of other branches of the duty which has been done by the Metropolitan Board of Works during the year now reported upon, we should certainly have to express the opinion that all alike seem to be administered with equal care and intelligence. So far as the published Report of any such body can be accepted as a basis of judgment the Board cer-

tainly appears to be composed of forty-six able and active men, and the official staff none the less to be efficient and earnest.

If, again, it is to be understood that this Report is meant to constitute an appeal to the public for a vote of confidence in the Metropolitan Board, it seems impossible to deny that it is in every respect a powerful one.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

The Greek Plays.—III.

THE two plays which I bracketed together in my introductory notes on the Greek plays as belonging in their action to the palmy days of classic art were *Winter's Tale* and *Timon of Athens* (B.C. 430-407). That there is a considerable difference in the classical character of these two works one must at once admit. That the classic element in the *Winter's Tale* is overlapped by English mediævalism to an extent which is at times startling cannot be questioned by anyone after reading the fourth Act. That quite apart from the introduction of sixteenth-century English country life there are strange anachronisms respecting places and people must be conceded. As, for example, the introduction of the Oracle of Delphi as an integral part of the plot, the mention of the Emperor of RUSSIA as HERMIONE's father, the presence of JULIO ROMANO in Sicily as a painter of sculpture, and the existence of a country with a sea-coast called Bohemia, and ruled over by a king called POLIXENES. Nevertheless, I am not by any means prepared to say with some readers of this play, that it is a comedy quite removed from the sphere of reality. The Italian painter and the Emperor of RUSSIA slip into the text almost unobserved, and but for the picture of the English village festival, together with one or two slight references to costume, we should have a play almost wholly free from anachronism.

The important part in the plot played by the PYTHIA, or priestess, at Delphos recalls a time anterior to 371 B.C., when the oracle was popular; the names of the *dramatis persone* are Greek down to the names of the shepherdesses and pedlar, and the state of society, divided as it is between two classes—the aristocrat and the labourer—might take us back even to the heroic age. Then for "Bohemia" I would venture to read Boeotia, and so get rid of the geographical difficulty. Finally, as to the English character of the fourth Act, we may bear in mind that a shepherd's life was very much the same in the heroic age as it was in the Elizabethan or any other age; and that the Boeotian poet HESIOD, in the "Works and Days," gives us pictures of a simple country life very little different from those given us by the English poet in the *Winter's Tale*. We have, therefore, to choose some date before 371 B.C. for the period of the action. I say 371 B.C., because after this time the Delphic oracle had so far lost its hold upon the public faith, and its old towering influence had been so much reduced by the exhibition of manifest favouritism, that it would hardly have attracted a colony so far removed as Sicily. Nor, on the other hand, must we venture to go too far back, for fear we reach an art period wherein the extremely realistic painted statue as we have it suggested in the play would have been impossible—impossible to the first or Archaic period as a matter of course, impossible to the second or Ideal period (464-432 B.C.) as a matter of art, which artists at least can readily understand. It is to the beginning of the naturalistic, or third and last, period of Greek art (430-407) that I would refer the action of the *Winter's Tale*; and thus it comes to be bracketed with *Timon of Athens*, which is really a Greek history, TIMON, the misanthrope, and ALCIBIADES, the general of the Athenian forces, being prominent names in Athenian history from 422-404 B.C.

The architectural scenery in the *Winter's Tale* is Sicilian, and includes

1. A street scene (before the palace).
2. A room in the palace of LEONTES.
3. The outer room of a prison.
4. A court of justice.
5. A room in PAULINA's house.

The palace of POLIXENES appears once only in the short opening scene of the fourth Act, but this scene might just as well be a country road or a garden as a palace. The five Scenes above enumerated may be reduced to four without doing the slightest violence to the text, and without incurring any archaeological improbability, by uniting Nos. 3 and 4, so making the court of justice serve for the second Scene of the second Act. Nor would it be very difficult with careful attention to the planning and setting of the scene to reduce the list still further by uniting No. 2 with 3 and 4. Now, although the period of the action belongs to the naturalistic, or last style of Greek art, it is necessary to remember that a Classic city, as a rule, was not necessarily built in one day and in one style, any more than a Gothic town was. That just as London and York, Coventry or Bristol in A.D. 1430 exhibited buildings of a variety of dates up to the purest work of the thirteenth century, and beyond that to at least the middle of the twelfth century, so in Agrigentum for a century and a half, and in Leontini and Syracuse for three centuries, the builders' hands had been busy before POLIXENES came on his unfortunate visit to LEONTES.

But whatever variety existed in the proportions of column and entablature, whatever changes and refinements were developed under the indubitable art-culture of the Sicilians, Doric was the prevailing character of the architecture. On public buildings like the temples and palaces, colour, gold and varnish, were lavishly used outside as well as inside when the work was of porous stone and stuccoed, but they were perhaps applied in less quantity when the work was of marble. M. HIRTORFF, who, in 1823-4 travelled in Sicily in company with the German architects ZANTH and STIEB, tells us that the body of the walls were painted a pale golden yellow, the triglyphs and mutules blue, the metopes and tympanum red, and on some parts were traces of green, all used in various degrees of intensity. Other antiquaries tell us that "the white marble never remained naked," and that even the portions intended to be white received a transparent coating, that the blue used was of a grey opaque character, that the red was transparent, and that the green was very delicate although bright. The streets were narrow, and were paved with irregular polygons or blocks of stone, and every building was not exactly a repetition of a peristylar temple. Indeed the majority of houses appear from ARISTOPHANES to have been very deficient in their internal arrangement, and to have been built on very limited plots of ground. There seem to have been no sanitary provisions of any kind, and the poultry lived, Irish-fashion, in the room where the beautiful MYRRHINA carded her wool or plied her distaff. The roofs of many of the houses were flat, and thither the women retired, some to indulge in wine, some to mourn for ADONIS. The Nestorian house, illustrated in LAYARD's "Nineveh," may be taken as giving a fair idea of the general appearance of the common class of Greek tenements. But, again, a Greek town was not made up wholly of the lower class of dwellings any more than it was of temples or palaces. In the Thesmophoriazussa and Ecclesiazussa we meet with residences of more than one storey where, too, the women of the house have a distinct suite of rooms to themselves, where some of the upper windows look into the street, and where bay trees and statues shade the entrances. Still with the extension of plan and increase of means here indicated there was scarcely any addition to the walls in the shape of architectural detail. Nor did the ordinary domestic building of Greece partake of anything like what we understand by the words architectural style until a hundred years after the time now under our consideration.

The difference between the houses of the lower and the upper classes was one depending chiefly on size, solidity, and paint. The palace of LEONTES towards the street might be represented as a massive stuccoed wall of two storeys covered with painted decorations and pictures, pierced above by plain square windows with folding shutters, and below by a wide and lofty doorway set in a frame of Doric antæ entablature and triple step-raised threshold. The doors themselves should be folding, with framework of plates of bronze studded with gold, two large golden rings used as knockers, and numerous square panels filled with ivory bas reliefs, painted and gilded, and backed by bronze or wood. Before the antæ might be placed marble statues† of APOLLO and HERMES, and before these, and by the side of them, the bay and the laurel, with marble seats beneath them, extended avenue-like to the line of the street.

The interior or room of the palace might be either the *andron* or peristyle, the open part covered with a linen velarium, or a hall arranged on a theatre-like plan. Such an addition to a royal palace might be unusual, although not impossible, for the half circle was a form of ground plan by no means limited to the uses of the drama. But whichever plan may be selected, there must be no lack of imagery portrayed upon the walls round about—amber colour and ivory, bright red and gold, grey blues and silver, tender green and bronze may all be there. There too we may have curtains of the rich Tyrian purple, covered with embroidery in gold, white and red. The wall paintings might be arranged in two or three rows, the lowermost level being some four or five feet from the floor. The subjects would be taken from the stories of gods and heroes—APHRODITE's envy of PAPHOS, or the labours of HERCULES; how JASON won the guarded fleece of gold, or how THESEUS escaped the labyrinth—whilst some rooms would be wholly given up to the story of the siege of Troy or the wanderings of ODYSSEUS. But unfortunately such scenery as that of the kind here suggested is practically impossible in this generation. We may have artists equal to save the work from being ridiculous, but no manager would be mad enough to pay for it, while actors and actresses work from low motives, are sand-blind to art, and therefore utterly incompetent to act in the poetical drama.

PAULINA's house would of course be very inferior to the royal palace, and yet we must remember that the text indicates a place of refinement, a house where art was honoured, where sculpture was at home, and where the latest and best work was enshrined god-like within a tabernacle, tent, curtain, or velum. These curtains were movable in three ways, either by being drawn aside, by being lowered to the floor, or by being raised to the ceiling. They were either of fine wool or thick linen, and some were sumptuous in wealth of lovely colour and woven figure. An open or half-open gallery or corridor, the roof resting on squared posts of timber

* Lystra. See also Ezekiel, chap. 8.

† Statues in the open air had *μυρτίνες* or metal disks above the head to protect them from falling matter.

or masses of stuccoed masonry, statues on cylindrical pedestals, a wall with a painted band or two of ornament, a recess for HERMIONE, and a general amberish tone of colour over all are the chief ingredients for this scene.

The costume for the Winter's Tale would be so much like that for Timon of Athens, that I defer its consideration until we have gone through the scenery of the latter.

Timon of Athens is one of those plays which is so far a doubtful or at least a patched work, that one need not be ultra-conservative in the matter of stage directions. Thus I have no hesitation in uniting the first, second, and third Scenes of the third Act into one external or street scene, the first and third Scenes being enacted at the thresholds of the houses of LUCULLUS and SEMPRONIUS. The fifth Scene might be omitted altogether; it has nothing to do with SHAKESPEARE, and certainly nothing to do with the plot. The short first Scene of the second Act may also very well be omitted in stage representation. If further we make the "room of state" of the second Scene of the first Act the same as the "magnificent room" in the last Scene of the third Act, we shall have the architectural scenery reduced to the following list:—

1. A hall in TIMON's house.
2. A room of state in TIMON's house.
3. A public place.
4. Without the walls of Athens.

The hall in TIMON's house (Act I., Sc. 1; Act II., Sc. 2; Act III., Sc. 4; Act IV., Sc. 2) can be no other than the *προθύριον*, approach, vestibule or court between the street and the front door. There might have been merely a wall or a wall with colonnade towards the street, and several entrances leading from it to the court or *prothyron*. This court was in effect as free as the street, for the porter and the dogs were always kept within the front door of the house itself. A once rich and ever generous openhanded man like TIMON would, doubtless, have his residence built in the best possible way, so we may fairly conclude that it was constructed of Pentelic marble, that its walls were covered with imagery, that its doors were clothed with costly metals and ivory, in a word, that it was exceptionally magnificent, and nearly, if not quite, as sumptuous as the palace of king LEONTES in Sicily. In the banquet scene the guests would recline on couches, for although the men of HOMER's time and the Dorians of Crete always sat, the Athenian had learnt to eat in a reclining posture long before the time of TIMON. One couch held, as a rule, only two guests* and had a separate table provided for it. Upon these couches were heaped goat skins, carpets, and cushions, so as to make them not merely comfortable but luxurious. The dinner, when of the most recherché description, consisted of soup, boiled fish, poultry, and meat, piled up on the tables; these done with, the tables were removed, then followed the finger-glasses of the period, plaited chaplets of flowers for the heads of the guests, and perfumes handed round by firm limbed girls; last of all, the loving cup passed round to the sound of music, and then were brought in clean or fresh tables piled with fruit, baked cakes, and toasted sweetmeats.

Leaving TIMON and his friends over their wine and water we pass into the street, and find that a public way in Athens was not very unlike what it was in Sicily. Of the walls of THEMISTOCLES and of the gates nothing remains, and any attempted restoration of them must be in great part conjectural. We are told that they were sixty feet high. There are remains of foundations at Pæstum and other places to show us how thick these Greek fortifications sometimes were and how they were constructed. That there were square towers and battlements and loopholes may also be received as tolerably certain. We may almost take it for granted that the gateway was square-headed, and that the masonry was massive and regular, but if we wish to go further than this, restoration must be supplemented by design.

And now turning to the costume of B.C. 430-407, I confess I am troubled; not for want of authorities but through excess of them. On marble, vase, coin, and gem are the illustrations which the old Greek has left us of the written word. This last tells us of women decked out in the feminine yellow or saffron-coloured chitons over loose Cimmerian transparent chemises, or chitonians of fine linen, with girdles round the waist, and sandals on the feet. An outer garment and a cloak, or himation, was worn over the chiton, the latter usually at night and in cold weather. Besides these, mention is made of Persian slippers, veils (shawl or peplos), parasols, small mirrors suspended from the girdle, rings, necklaces, gold ornaments, paints and unguents for the skin, the head-dress, the head-band, and the caul or net cap worn also at night. We are told of the hair of some women being cut bowl-fashion, of that of others being loose and flowing. As to the men, we learn that they wore a linen shirt, a chiton, girded, shoes, and in winter a cloak and boots, and that they wore the chaplet of flowers received at dinner throughout the evening, although they might be going to other houses. The colours most usually employed were the Tyrian purple, the Sardinian red, soft whites, tender greens, and dark blue-greys.

It is somewhat strange that, considering the abundance of illustration in the British Museum alone, a Greek dress has yet to be made; for neither in the numerous (attempted) Classical costumes of the stage, nor in the paintings of Classical subject publicly exhibited, has

a Greek tunic or chiton been fairly represented. It is quite impossible without the help of drawings to fully explain the different shapes of and modes of wearing this the chief article in a Greek wardrobe; but it may be noted—(1) that fineness and closeness of texture in the wool is essential; (2) that fullness of material so as to secure a multitude of folds is equally necessary; (3) that the gigantic key and wave borders we have been accustomed to see on the English stage have nothing to do with Greek work of the time of ALCIBIADES; (4) that the decoration of the dress was effected by double lines and dots arranged vertically in the centre of the front of the chiton as well as by border lines; (5) that there were sundry kinds of girdles ranging from the simple string tied in a large bow at the front or side to the broad metal zone tied or clasped; and (6) that there were two distinct kinds of chiton—one single bodied, and the other compound or double bodied (called *διπλοῖς*), which consisted in the chiton being much longer than the person, the extra length being doubled over, and falling over the front and back as low as the waist or lower. Besides these common forms of the chief dress we meet with illustrations of over dresses reaching some distance below the waist, and girded. Some of these have short shaped sleeves, and some have long, loose, or bag sleeves. Another form which has the appearance of a sleeve is nothing more than the upper extensive hem of the chiton dropping over the upper arm, and looped up by one three, four, five, or six buttons. For the Greek chiton was formed of a square cut piece of wool, and was as broad or broader than it was long. When, therefore, the dress was not looped over the arm, it hung from the shoulder button in an open fold under each arm, through which might, perhaps, occasionally be seen the delicate chemise or vest beneath. The borders were usually enriched with single lines, sometimes dots set close together were added on one or both sides of the line, and in the richest examples double lines occur, the upper band thus formed enclosing embroidered figures—the marginal one decorated with conventional leafage.

Various, too, was the arrangement of the women's hair, as also the designs of their head-dresses. Some of these were extremely beautiful, others, again, look awkward, not to say ugly, if such an objectionable word may be allowed in connection with anything Greek. The bracelets were chiefly of gold, made in the spiral form. Necklets were mostly of beads or pearls, which were also used for the head-dress, for neckchains, and even girdles. The peplos or shawl, and the chlamys or scarf, were worn out of doors. The first of these was a very capacious sort of wrap, and was often used as a cover to choice furniture. It was usually worn round the body, the end being thrown over one shoulder and falling to the bottom of the back. The scarf was sometimes made in an oblong piece, the length equal to twice its width, and sometimes with triangular goars or wings added. The chiton and chlamys were worn by both sexes. I might go on exhausting the patience of my readers with descriptions of the different methods of wearing the scarf, and of many other modes and details of dress, but if anyone is anxious to learn more they have but to devote a spare day or two to the British Museum, or, if this is not within their reach, HAMILTON's "Vases" may be consulted.

And now, after one has been wandering in museums and noting ancient eastern authors, it is quite a refreshing change to come home once more and to turn to the notices of costume in the text of Winter's Tale and Timon. HERMIONE's words—

—You may ride us

With one soft kiss, a thousand furlongs, ere
With spur, we heat an acre.

introduces us at once to a period wholly different from the time of ALCIBIADES. As we go on we hear of the day when LEONTES saw himself unbreech'd in his green velvet coat, his "dagger muzzled lest it should bite its master, and so prove, as ornaments off do, too dangerous." HERMIONE wears "a medal," also called "a jewel," hanging about her neck, a fashion we see illustrated in many of the sixteenth and seventeenth century paintings. PAULINA is persuaded of the clown's truth by recognising her husband's handkerchief and rings. And lastly, in the fourth Act, mention is made of "three pile" (velvet), and of a host of Elizabethan millinery, "ribands of all the colours in the rainbow," points or tags, inkles, caddisees, cambrics, lawns, tawdry lace, tape, silk, thread, sham jewels, brooches, pomanders, shoe-ties, and

Gloves, as sweet as damask roses;
Masks for faces, and for noses;
Bugle bracelet, necklace-amber,
Perfume for a lady's chamber:
Golden quoifs, and stomachers.

In Timon of Athens drums and gloves are almost the only words which refer to costume or properties of a later age than that to which this history belongs.

Sir Henry James, the Director of the Ordnance Survey, has pointed out that the "Toughened Glass," discovered by M. de la Bastie, was apparently known in the reign of Tiberius, as, according to Pliny, a combination was devised which produced a flexible glass; but the machinery of the artist was totally destroyed, we are told, in order to prevent the value of copper, silver, and gold from becoming depreciated. According to one account, an artist appeared before Tiberius with a cup of glass. This he dashed violently upon the ground. When taken up it was neither broken nor cracked, but dented like a piece of metal. The man then produced a mallet and hammered it back into its original shape.

* The Roman couch was usually arranged for three.

PAINTING AT THE ROYAL ACADEMY.—III.

THE six Honorary Foreign Academicians show their esteem for the honour paid them by absence from the exhibition, as usual; but of foreigners resident among us, or known in our homes, several works claim notice. M. TISSOT, for instance, has painted (48, 1,233) social incidents—*éditions de luxe*—with his specialties in the way of a light and extremely brilliant key of colour, and a happy knack at hitting easy attitudes and manners. If he were to sing instead of to paint, his *vers de société* would be of the most elegant trifling, with a shrewd sarcasm *au fond*. EDOUARD FRERE sends one little contribution, M. LEGROS nothing, this year. M. ISRAËLS, the Dutch artist, has a characteristic scene of fisherwives *Waiting for the Herring Boats* (850), in colour and feeling sombre, if not sad, as is the painter's wont. But the skilful way in which the various groups, each complete and telling its own story, combine into a whole of balanced composition, shows the well-trained artist; the execution, blotted and free, seems careless and unmeaning if viewed too near, but from the right point of distance resolves into coherency and solid effect. A sin against taste have the hangers committed in suspending at the top line in the third room Madlle. HENRIETTE BROWNE's delightful and artist-like picture *The Pet Goldfinch* (239). The subject is only a little child at her lessons, who has brought in from her ramble flowers and fruit, and now is attracted, as such a gatherer would be, by the song of her pet bird; but the tenderness with which the whole thing is told, and the true quality of tone and touch, are lost at the height at which the picture hangs.

Still we must harp upon quality of sentiment and of carefully corresponding colour, while speaking of the work of Mr. BOUGHTON. The two single figures, hung as pendants in Room III., the *Path of Roses* and *Grey Days* (182, 198), are as some sweet old songs, in which each word is so delicately chosen to help the tender and dainty grace of the verse, you cannot pick it to pieces to find the secret of its charm, without breaking the spell. The larger composition [of Mr. BOUGHTON] is built upon sterner motive; *The Bearers of the Burden* (101), women, weary and footsore, trudging with baby and bundles behind the strong-fisted fellow, with his cur and his pipe, who hulks along ahead of them, are true enough to every day sorrow, and would almost mar with suggestions of endurance and pain this sweet English landscape, the common tangled with low growth, the little copse on the hill, all pale and dim under a soft sky, darkening to chilly close, were it not for the patient hammering of the old stone-breaker at the road side, and the incident of labourers at work in the distance. Mr. BOUGHTON does his moralising in an artistic way, and while preaching, does not forget to paint. His sympathy with continental modes stands him in good stead when, like an Englishman, seeking to tell a story on canvas.

Faithfulness to artistic ends has also not failed M. HERKOMER when tackling a difficult subject in *The Last Muster* (898). To range a crowd of old men, dressed in red coats and black trousers, on benches, with only some brown wood-work, a grey pavement, and a ragged banner or two to help the colour, and yet to give a picture that shall satisfy your eye and thrill your heart is what M. HERKOMER has tried—and succeeded. These veteran soldiers, Chelsea pensioners, gathered together after their rough life-work of fighting, to hear good messages of peace and comfort from the Master they all serve, are a company touching to behold. No fancy portraits these, but close studies, true to the lines that time and wear have cut into each furrowed countenance; and very simple and broad is the management of the figures, yet various and true in simplicity. So that this picture is indeed no drawing-room ornament, nor pleasing to a fastidious fancy; but it is a piece of honest and earnest and truehearted reality, painted with much purpose and good artistry.

By way of the Chelsea pensioners we easily turn to the battle-fields of the year, over which fresh battles seem in danger of irruption; for the advocates of Miss THOMPSON's clever picture are not content to take up lance without running it into the canvas of M. PHILIPPOTEAU; while the admirers of the French artist cannot praise him without sending a sly shot at the lady. We have been from the first—and that is several years ago—warmly appreciative of Miss THOMPSON's work; and in *The 28th Regiment at Quatre Bras* (853), we recognise the same artistic fling, the capital sense of incident, and much of the fine hand touch as heretofore. But that Miss THOMPSON has got wrong, and very badly wrong, in her colour there is no denying. We noticed the same fault in a sketch at the Institute. She has tried to keep down the red coats of the British soldiers by a hectic flourish of red smoke, and to balance it by retiring groups half hid in grey smoke on either side. The expedient has been ill managed, and the picture suffers. When engraved and reduced to black and white, as we understand it is to be, adverse critics will have to confess how admirable is the study of expression thrown into the faces of the resolute yet reckless youngsters who resist the enemy's cavalry attack, and how true is the drawing and how clever the episodic incidents. M. PHILIPPOTEAU's subject, also taken from the Waterloo campaign (613), is undoubtedly good. This kind of bird's-eye view of a battle-field is done to order in France and Germany, where masters in military painting abound; but certainly M. PHILIPPOTEAU shows excellent taste and skill. The composition is admirably blocked out, and the scattered elements brought into a

whole. *Ligny* (877), by E. CROFF, is also a capital bit of battle-field incident.

It is beside our possible limits to extend notice to all worthy pictures, so we must needs group a few names and subjects together without comment. Thus, then, Mrs. E. M. WARD, *The Poet's First Love* (380), and Miss STARR, *Hardly Earned* (527); F. MORRAN, *The Emigrant's Departure* (1168); P. R. MORRIS, *The Mowers* (1,193); Sir J. GILBERT, *Tewkesbury Abbey* (227), and *Don Quixote* (540); another subject from *Don Quixote*, by L. J. POTT (1,200); H. WALLIS, *Fugitives from Constantinople* (386); K. HALSWELL, *Le Sposalizio* (512); R. DOWLING, *A Sheikh and his Son entering Cairo* (522); and a figure subject by Miss E. OSBORN (545); J. HENNESSY, *The Votive Offering* (431); Mr. B. RIVIERE, *News of the War* (190); S. LUCAS, *By Hook or Crook* (327), &c.;

The joke of the year is painted by that sly humourist, Mr. H. S. MARKS. *The Three Jolly Post Boys* (168), is certainly a most irresistible piece of fun, no more vulgar than is the subject, in spite of certain criticisms; only some people cannot enjoy broad humour even when seasoned by shrewd reading of character and good art workmanship.

Humour has been somewhat the prerogative of the Scotch artists; in the absence of Mr. FAED, and while Mr. NICOLS only paints from models with an alarmingly affectionate eye for crude colour and magnified naturalism, the Scotch school becomes wholly solemn and dramatic. Mr. ORCHARDSON and Mr. PETTIE have done good work, and promised more, in subject pictures, but this year both show (and the fall with Mr. PETTIE is the greater, he being the "biggest man of the two") that the old mistake of substituting mannerism for style, will be their bane. If they could put into compositions the good work shown in their portraits, all would be well; though even in portraiture there is a tendency to scamp honest modelling of limb and flesh, and to force up effect by surprise. The touch of these two artists is curiously similar, though Mr. ORCHARDSON seems to work with a knife, and Mr. PETTIE with a tuft of bristles. But, as before said, their portraits are clever and, with certain exceptions, admirable work. *Vide Nos.* 70 and 559, by Mr. ORCHARDSON, 318 and 565, by Mr. PETTIE.

The Scotch landscape artists stick with praiseworthy fidelity to their native land. "*Land of the Mountain and the Flood*," quotes Mr. MACWHIRTER (503), and truly on the mountain and the flood do these Scotch artists ring a monotony of changes; sometimes they paint the mountain, and sometimes the flood, and sometimes both. Mr. PETER GRAHAM set the fashion with a certain glorious *Spate* some years back, and now Mr. DOCHARTY follows suit with *The Dochart in Spate* (896), and Mr. MACWHIRTER paints a most formidable stream, which threatens to engulf the beholder (503). These works are not without merit or strength; Mr. MACWHIRTER, indeed, may do some very fine thing any day. Mr. GRAHAM, himself, has sadly lost both touch and sense of colour; we wish him better luck, and a return to honest transcript from nature. Meanwhile here are several true and impressive landscapes by Mr. T. SMART, who, though he paints the old orthodox peat mosses, mist enveloped mountains, and generally sombre and gloomy state of things dear to his race, yet throws colour into shadow and nobility into form, and has not yet sunk into ink and mahogany tones and scenic contrasts. Is Mr. MURRAY a Scotchman? He has sent a very good picture (114). Land and sea receives, on the whole, fair treatment this year. In opposition to the gloom of the Scotchmen one or two artists are studious above all things of light. Mr. ALFRED HUNT has brought the veritable sunshine of *Summer Days* (1,199) on to the Academy walls; no artist is more tender and observant of nature under changes of light. Mr. BRETT has achieved the greatest success of the year in the rendering of lustrous colour under full warm sunshine, in *The Spires and Steeples of the Channel Islands*; he has dared and won the beauty of splendid hues, as of birds' wing or shell, that sometimes are thrown on rock and sea, under special conditions of atmosphere. We do not especially admire the manner of Mr. VICAT COLE, but in one picture (1,213), *Summer: Noon*, it were impossible to miss the glorious calm of noonday sunshine on the beechen slopes and sweeps of bracken, and folds of wooded distance.

Again Mr. HOOK, in his delightful pastorals, whether in England or Holland, is ever studious of atmosphere. He ventures to paint green grass ablaze under sunlight, and the shimmer of water under a sky of white radiance. Mr. FREDERICK WALKER has sent but one, and that an unambitious, picture to this exhibition; but the small canvas entitled *The Right of Way* (25), is a gem in its subtle rendering of early spring lights and colours, when the sunshine has a watery gleam, and the bright grass grows under the soft feet of the young lambs. We have left towards the last, under no disrespect, the landscapes of Mr. T. S. RAYEN. This artist continues to show originality in choice and treatment of subject. Grand mountain forms under the witchery of fitful moonlight, painted not after traditional VAN DER NEER model, but from real face-to-face study, again have attracted him (128). *The Quarries of Holm Grouse, Lancashire* (231), deservedly hung in the large gallery, is a remarkable picture. No common observation and power of hand have rendered these great rainbow-tinted boulders of slate, and swathes of yellow bracken, and the noble outlines of the far off mountains, so solid, yet so tender, against the soft sky. A landscape artist of whom we shall expect to hear more

is Mr. J. L. PICKERING, whose two modest pictures, *On a Voyage of Discovery* (118) and *Deserted* (277), are brimful of a poetic observation. They are both on the line—a great piece of discrimination on part of the hangers. Also let us give a passing word to a Corot-like morsel by A. HAGUE (300, 306). Two capital sea pieces by COLIN HUNTER (30 and 837) we have only space to indicate. The broad and honest work of this artist we have before commented upon. Mr. HENRY MOORE is in great force. *Outside the Harbour* (1,176) is probably the artist's finest work for drive of wind and wave, and helpless rock of the deserted hulk upon the water. The study of sky is admirable, with the sudden gleam of sunshine between the rifts of cloud upon the crested shoulder of a huge wave, causing it to cast a shadow on the hollow beneath, foam-laced and seething.

The animal pictures of this Exhibition are more remarkable than choice. Mr. GODDARD has painted *Lord Wolverton's Bloodhounds* with a defiance of anatomy not to be commended. Mr. HARDY is ambitious but hopelessly vulgar in his chief picture of a lion torn by vultures, *How are the Mighty Fallen* (111)! Even Mr. BRITON RIVIER makes repulsive, though touching, the episode of the poor faithful hound, wounded to death, as *Last of the Garrison* (626). Mr. ANSDALL has long been past notice.

ORIGINALITY AND PROGRESS IN MODERN GOTHIC ARCHITECTURE.

By MR. SAMUEL HUGGINS.

A Paper read at a meeting of the Liverpool Architectural and Archaeological Society.

THE first and warmest wish of the enlightened friend of the modern Gothic architecture, on a calm and dispassionate review of its career, must, I think, be that, no longer confining itself to the tripartite rectangle and spire, it break out into other and brighter forms, and show a greater variety of general outline and composition in its most important class of structures—churches; for most certainly those that are everywhere springing up in city and village are too much alike both in horizontal and vertical section; and this, I imagine, arises from architects ignoring what ought to be their constant aim—beautiful outline; which not only gives scope for the highest architectural taste and invention—but it is where taste and invention chiefly find scope; and it is the first thing that the mind takes cognisance of—and chiefly in the parts that tower into the air above the general roof-line of a city; in which features it should be the aim of the architect to embody, if not the fairest forms wrought in fancy's loom, at least the most beautiful forms that masonry could rear up into the welkin. For the body of the building there are other shapes surely suitable for churches of the present day; which had better fall back upon some of the forms of Early Church in different countries—octagonal, square, circular, as well as emulate those more beautiful shapes adopted by other creeds. I allude chiefly to the Mahomedan mosques, with their beautiful domes and minarets, the contemplation of which in various lands is not unworthy of the Gothic designer. They are at least calculated to excite regret that Mahomedanism should have monopolised all beautiful curved forms, and left the straight-lined ones to Christianity.

Crowning such new geometrical compact forms, perhaps the most fruitful element, pregnant with fresh beauty, and new combinations is the dome, than which, covering a square compartment, nothing produces so fine an interior effect.

The grandest and most beautiful interiors and exteriors in the world are square or simple oblong or Greek Cruciform spaces, as St. Stephen's Church at Wallbrook, St. Sophia's Mosque, and the Imperial Mosques at Constantinople, buildings most of them showing sympathy with and emulation of the greatest and sublimest works of God in nature. To these useful and grand forms, which she could construct and decorate as consistently as any other Gothic architecture should she now occasionally betake herself if she would get into the true path of progress. The blending of the style to their embodiment would, I believe, go farther than anything else to pour new life and vigour into it. The question whether the dome would harmonise with Gothic architecture the Mahomedans in India long ago settled, for if it harmonise with their works, which it admirably does, it could not fail to be a welcome feature of a Gothic composition. It must be even more harmonious in an arcuated than in a trabeated style.

I have said nothing of the pendentive dome, nor of the combination of domes and semi-domes originated at St. Sophia's at Constantinople in the sixth century, and which, after slumbering for just a thousand years, were there revived by the Turks in the Mosque of Soliman in the sixteenth century. But these are forms which I believe the Gothic might appropriate with due modification, and worthily decorate, to the production of buildings that would shed as much glory on the style as any aspiring example of the Middle Ages.

But our steeples would not be so much alike if greater pains were taken to make them beautiful; which considering their prominence—thrown up into the air only to be looked at—to be observed of all observers, and where they cannot be useful, they certainly should be more decorated by means of tracery and carved foliage, and more pleasing in outline; which reminds me how seldom the pierced lantern and lantern and spire, of which we have some beautiful examples, have been employed. But these structures are really captivating to the imagination. Such compositions seem the palace-home for genii of the air and clouds, and to such the eye would be attracted ten times more than to the solid spire, and from them receive ten times the pleasure.

All these would be sufficiently pyramidal and aspiring in character, or might be made so, and would point to heaven as unmistakably as the simplest tower and spire; indeed, there are a thousand ways of producing this character without confinement to the tower and spire. Something is, I think, urgently called for to infuse greater variety into this

class of structures; for the constant recurrence of the same unvarying forms in town and country becomes wearisome to the eye; from the monotony of which in some of our large towns, where, at least in manufacturing towns, they are, moreover, eclipsed in size and power by the tall chimneys, the ugliest of Wren's steeples, and some of them were ugly, would be a relief.

Spires and steeples of one type of form were never so numerous in Mediæval or any former time in any other country of Europe; and never did architecture run so counter to the analogy of nature as in their production. I appeal to all capable of making the observation whether it is not so. Think of the infinite variety with regard to form, colour, &c., in the natural features to which they bear the strongest analogy, that beautiful and poetic class of structures with which nature has everywhere adorned the earth, I mean trees, as well as those humbler productions, canes, reeds, corn, grasses, and you will be more likely to feel with me, that there is something wanting in modern Gothic architecture—a style which in able hands is capable of vying with nature herself in the production of a pleasing variety. Assuredly there are an immense variety of beautiful, curved and pointed, and aspiring forms—far brighter forms than any that have yet appeared in Gothic architecture, Mediæval or modern—equally appropriate, equally expressive, that could be found among the golden visions that lie mirrored in the soul's fairyland—the fancy and the imagination.

Recurring to the general form and character of modern Gothic churches, nothing would, perhaps, contribute more to give newness and improvement to exterior design than the introduction of the round or simply clustered column of the interior to play a part on the exterior—I mean on the same full scale as the nave pillars within the building, and acting as supporting columns in arcaded porches, as seen in the Byzantine and Italian Gothic Churches. I think this one of the most important improvements, one of the greatest steps in advance that could be made on the Mediævalists. It would be the acquisition of an important element of form, the column becoming as useful and effective externally as it is internally, and as it is in the Classic styles. The column so applied would have an ennobling effect upon any church, in proportion to the extent in which it was employed. It would give greater contrast and variety of form, and a brilliancy of light and shade which nothing else could give. In a cathedral the far advancing Galilee porch, composed of columns would not only be useful, but have the finest effect on the whole composition. The angles of such porch or any porch, unlike the porches of the Italian Gothic churches, which look weak and are weak for want of abutment, should be buttressed. The introduction of this new element would give great impulse to ingenuity and artistic taste and invention; for the column is by no means a stereotyped feature, fixed for ever in one or two forms, Corinthian, Ionic, or Doric, but full of life and elasticity, capable of being drawn out and adapted to any new circumstance. Indeed, in any style the column as hitherto known and used, the most elegant Corinthian column ever designed or executed, that of the remains of the Temple of Jupiter Stator, or even the best Greek examples, could be far outstripped and distanced.

In Corinthian columns, I consider, foliage decoration is too much confined to the head of the shaft. It should, I think, first appear at the base, and delicately adorn it at various stages, as preparation for its full development in the head.

I think the modern Gothic architects have not duly recognised in their works the difference between modern and Mediæval feeling on the subject of religion. Had they done so, a less measure of a vertical expression, and more of the horizontal, together with lower and broader proportions than are found in the ancient examples of the pointed Gothic, would have been exhibited. The edifices of the thirteenth and fourteenth centuries were in keeping with a religious enthusiasm, a public zeal or *furor*, in those times that no longer exist, and the style requires a lowering, a toning down, as it were, to bring it into harmony with our soberer, more rational experience; which points to forms and proportions which, if not so significant of man's religious aspirations, are, perhaps, more symbolic of the "great and noble simplicity of the Gospel story." The same sound judgment and artistic power that so beautifully bent the Gothic to domestic purposes both in France and Italy, prior to the revival of the Classic Roman, carefully excluding all ecclesiastical character from it, is what is now wanted to be exercised on the style for its adaptation to the needs and spirit of the day.

Moller, in remarking on the Church of Bathalha, in Portugal, the roof of which is quite flat, covered with large stone slabs, complains that the whole form of the building, the pyramids and the small pointed gables with which the aspiring pillars are ornamented, are discordant with the horizontal termination of the nave of the church, and attributes it to the choice of a northern style in a southern climate. But the discordancy arises from the merely borrowing, without adapting the style to the climate and building materials of the country: a style that was as well fitted for southern as for northern climates; one, indeed, which arose in southern climates, and in its earliest states, as in Lombardy, was essentially a southern style. Even in a country so southern as Portugal, the serenity of whose skies, I believe, is not perpetual, a slight pitch, equal to what the Greeks, or even the Romans, used in their temples, might be introduced into their roofs without libelling the climate. Now, I believe Gothic could be brought down to even this low pitch of roof, and made perfectly harmonious with ideas awakened by the climate and aspect of nature in the country in which such roof-pitch was sufficient. The façades of the cathedrals of Orvieto and Siena would have looked as well, if not better, with gables of lower pitch, which would have been more in harmony with the rest. All the smaller and ornamental features would, of course, have to sympathise in this reduction of pointedness in structural features; but there may be as many points, and as much increase of acuteness upwards, as in the Gothic of the North.

If Gothic cannot be thus adapted to a low pitch it has no business in the Peninsula or in Italy, and it must not be introduced into some parts of our colonies, as Australia or anywhere but in high northern latitudes; which to affirm would be to detract from its merits. But it can be. To

the man who knows what style means, and how to handle it, nothing is easier than fully adapting it to any climate. It would go spontaneously, as it were, into the forms and modifications required by the exigencies of the climate, and gradually recognise every circumstance that, in the nature of things, is expected to exert an influence upon architecture. I believe the smallness of slates in the Middle Ages, requiring a high pitch in roofs, had something to do with the extreme verticality of the style; and, if so, the largeness and perfection of that roofing material in our day should cause a movement in the opposite direction. There would be no danger in rendering the horizontal tendency too prominent, because horizontal connection belongs naturally to all styles, whatever degree of verticality they may affect, and because horizontal division into stages corresponds to and symbolizes the natural and proper growth of the building; though in no building, of whatever style, should the horizontal and vertical be equally poised.

Increased horizontality is the more called for in Gothic churches forming part of continuous street architecture, which is essentially horizontal, whatever the style. A Gothic church, placed between two rows of attached shops and dwelling-houses, and ignoring, as too many Gothic churches do in England, the horizontal principle of composition is utterly contradictory of the tendency and expression of all around it. To be edified or pleased by its peculiarly religious character, so utterly inharmonious with its accompaniments, is absolutely impossible. So entirely is it out of its true place and element among the hills and meadows, rising above cottage gable, trees, and other kindred and analogous forms, or combined with those picturesque conventional buildings which the Mediæval architects could so skilfully group around it, that what strikes you most is its strange, disconsolate, and plaintive air. Such inconsistencies of character and association should be carefully avoided.

Gothic architecture has the advantage over the Greek in being richer, more expressive, fuller of natural life and variety, and consequently more powerful than the other to move the heart of the beholder; but if we could infuse into it some portion of the unity, pure symmetrical beauty and intellectual repose of the Greek, it would be more perfect and satisfying architecture. It would satisfy the intellect as well as touch the heart and imagination, and commend itself better to the taste of the present day, which has been refined by Classic art and literature and various influences unknown to the Mediævalists. I believe this could be done, and I think, moreover, that the aim at this is one of the best means of progress that remains to the style, the true advancement of which requires that every purifying influence upon its detail and sculptural decoration be brought to bear upon it. Among the first of these is that of the symmetrical genius of Classic architecture and art, and the taste and feeling inspired by them and by the revived classic literature and learning, the streams of which have now mingled with those of the Gothic or Romantic for centuries, till the mind of classical antiquity has become part of the modern mind of Europe.

That the revived knowledge and study of Classic art should render our Gothic different to that Gothic whose architects had never heard of the Parthenon or Erechtheum, is a position which seems to me to require little to be said in its support. The mind and taste of the unprejudiced architect—and all architects must be unprejudiced, if they would be great or truthful—could not fail to be touched and chastened by the refined beauties of the Classic monuments, and rendered purer and more fastidious than they would otherwise have been. Such an architect, I believe, would imbue his mind with classic beauty to the same extent as a man whose sole pursuit it was; and this, if he is obeying his intuitions, and using the style with enlightened freedom, must of necessity communicate itself to his works, to the infusion into them of a tincture of classic feeling which must operate as a refining and beautifying principle, and be “like a vernal air imparting an odour of flowers,” and render them more acceptable to tastes that have been purified by the study of classic poetry and literature and contemplation of classic works of art, and which has of late come to assimilate more to that of the inhabitants of the sunny South. His works would naturally retain a greater licence and wildness of composition and decoration than the classic genius would permit; but they would receive greater refinement, and would show more geometrical grace and precision, and other agreeable qualities that now distinguish Classic. Structural modes and principles would be carried out and expressed in them with the greatest consistent amount of formal beauty. I really question whether they would not exhibit an attempt at some of the optical and æsthetic corrections and refinements of the Parthenon; at least, I think their author would be inclined to try the effect of diminution and entasis on the nave-pillars of a church, or, in other words, turn the pillars into columns, as far as circumstances would permit, and keep more in view the classical proportions in these pillars.

In all countries styles of architecture have been more or less influenced by the proximity of others, which, in proportion to their fascinating power on the mind of the architects, have had an influence on their works. But not only have styles been influenced and changed by each other, but new styles, intrinsically beautiful, have resulted from the contact of two or more styles; and some of the most beautiful buildings in the world are those wherein the richer and happier fancy of the East has come to the aid of the soberer genius of the West. They are to be found in Spain, in Naples, in the Island of Sicily, and other places, where the most exquisite architecture has been generated by the mixture of that of the North, the South, and the East, Greek and Saracenic feeling in decorative detail and colouring, with Romanesque and Gothic taste in composition and massing. With a religion sternly opposed to that professed by the people, the materials and elements of whose monuments, Roman and Byzantine, they wrought into and amalgamated with their own, the Saracens gave an entirely distinct character to their architecture in the last-named place, Sicily, and rendered it one of the most beautiful and interesting styles anywhere to be found. The very highest style of architectural beauty may be and has been produced by the felicitous combinations that arise from the junction or meeting of styles: grandeur of composition and mass from one, elegance of ornament from another, richness of colour of a

third; while the union of two imperfect styles may be easily conceived to result in a third superior to either of its progenitors. What does not both the Gothic and Renaissance of Spain owe to the poetic feeling, delicacy, and refinement that pervade it and render it so truly captivating, to the influence and infusion of the Moorish? All this will be fully recognised and profited by in the works of the sincere architect, in which, I think, would be seen a tendency of the style to what it would have been had it been developed for the same purposes, and under the same religious impulses by a refined artistic people, who, while strong in their aims at religious character and expression of the Northern races, could yet fully appreciate every beauty and grace of the Classic, such as the Lombards in Italy would have produced had they not been checked by the influence of the Classic races which remained among them. To such an architect the chief use of all styles and all things else is the perfection of his own architecture; for which purpose all the outward forms and images of things, the whole compass of nature, the entire circle of arts, will be laid under contribution.

Of all the features of a Gothic pile, the one that most loudly calls for the refining influence of the Classical style is the buttress. In the great Mediæval examples of this feature, it is considered a merit that it is of the form best calculated for successfully resisting the lateral thrust of the groined vaults; that it is formed and disposed in strict and literal obedience to the law of the resolution of forces, and, therefore, without waste of its materials, every particle of which is actively employed to the exclusion of any useless or expletive masonry from its composition. Now it appears to me that it is only in the comparatively prosaic works of the engineer, and not in every work of even that class of production, that strict economy of materials should be enjoined; and that a buttress or anything else fashioned with an eye to a material use only, and to the embodying of proof of dynamical and statical knowledge and skill, does not belong to architecture, which, as an art of the beautiful, requires a greater sacrifice to the sense of beauty than is involved in the mere carved adornment of the form arrived at by algebraic calculation. I cannot but think that the form itself should be modified by careful considerations with regard to beauty, a ray of which, says Emerson, outweighs all the utilities in the world, and made as beautiful as would consist with its fully and clearly expressing its office and purpose as a buttress.

While the law of forces should be kept fully and clearly in view, such addition of material, beyond what stability required, should, I conceive, be made as would enable the architect to mould it into the greatest symmetry and grace of which it was susceptible, and enable him, in carrying it up from the ground, to avoid those irregularities which so frequently disfigure it, such as the one-sided set-offs, which are far less pleasing than the slope, which is carried equally round the three sides, and less susceptible of effective and satisfactory decoration.

The Mediæval architects did generally go so far as to give the buttress less projection than the outward thrust of the vault required, and supplied the deficiency of lateral resistance by the perpendicular pressure of the pinnacle. This was done less for appearance, perhaps, than to prevent an inconvenient projection of buttress; but might not a further liberty be taken with it to make it more symmetrical and graceful, and consequently more a feature of fine art? Might we not further reduce the necessity for projection by giving it greater thickness or width, or by giving additional thickness to the wall? But there are examples to show that the buttress can be sufficiently lightened as it ascends, and with entire geometrical regularity, with but little sacrifice of material. There are, I doubt not, various ways of doing it; among the rest that of turning the upper stage diagonally, which gives it a piquant and pleasing effect. But whether much or little expletive matter be required for the purpose in question, as beauty is indispensable in architecture, we should be quite justified in giving it, as much so as in oratory for the sake of sound, and to satisfy the sense of hearing, in adding synonymous and unnecessary words to complete the roundness of a period. Or, as in poetry, in which similar means of effect are resorted to: even rhyme tastefully applied gives to a work an additional power of pleasing. But apart from these considerations, the love of variety,—of the new, the original, the fresh in design, of varying on what has been done before, should lead to some greater freedom than has yet been exercised by modern Gothic architects in the treatment of the buttress—a feature which, as it seems to me, must naturally purify itself as the style advances; a square buttress with one sloping set-off at a third of its height, and a second one disguised by a pediment, and finished above with a square crocketed pyramid, is a thing that, having been produced so often before, no architect should literally repeat in the present day. The turret-buttresses of Henry VII.'s Chapel, Westminster Abbey, show the superiority with respect to beauty of the octagonal forms over the irregular square ones, which are undignified objects for their elevated and prominent position. The clustered pinnacles at the angles, as at Lincoln, are very superior to the square. I think the plan adopted by the architect of the cathedral of Amiens of putting the buttresses inside the building, or rather the window-plane outside, using the buttresses as division walls of side chapels, deserving of consideration, as one by which much that is injurious externally to high-art qualities may be avoided. While he did not waste the buttresses, he gave a greater nobleness and grace—an unbroken simplicity and breadth to the outside. As wide-spreading buttresses were all occasioned by narrowing of piers and widening of windows for the purpose of displaying stained glass, their treatment in future, and so far the course of the style, should much depend upon the reception and fate of that element amongst us—an element which cannot, I think, be consistently introduced to the extent it was in the Mediæval churches in any but Roman Catholic and high Anglican places of worship, on account of its diminution of the light necessary for the Protestant service.

But apart from this consideration whether unstained windows, with some portion of the fair face of nature in the shape of waving trees and shrubs peering in, would not be even more beautiful than stained glass—have more an air of cheerfulness, not unfavourable to devotion, is worthy of consideration.

I have already mentioned flying buttresses, which, if Gothic be pursued with the right notion of the relative rank of science and art—making art the supreme, and constructive science but her handmaid, the reverse of which was the practice of the Middle Ages, we should seldom see, and when we did they would not be straight common struts, but gracefully arched and pierced like those of Henry VII.'s Chapel. You would never see them on the body of large and noble churches, destroying their breadth and grandeur, as they destroy those of most of the great French cathedrals, which, as architectural compositions, might not inaptly be dedicated to the lame deity Vulcan.

I think our churches might be fringed and outlined above against the sky with more beautiful objects—of higher class of sculpture than they usually are—and that there is great scope for variation and improvement on foregone examples in the matter of buttress set-offs, parapets and finials, which should be brought more into the region of art; and that, in important buildings, statues, as at Milan, might more frequently be employed upon set-offs and as finials; and, as in pictures, the painters sometimes aim at developing some one quality in particular, so I would like to see in one a fine development of beautiful buttresses; in another, of windows in thickened walls, without buttresses, giving deeper and more powerful reveals; in a third a composition in which the window is omitted and light brought from above through the roof, which would give scope for the exercise of ingenuity and invention in wall-tracery, decoration and niche-work, sculptured symbols, &c. In such works we should have a chance of getting now and then a glimpse of something new.

Start not at the idea of a Gothic church without buttresses or windows. Surely there is nothing in the nature of the style that forbids skylights, which suggest at once whatever introduced the omission of the window; and as for the unbuttressed wall resisting the thrust of a vault, it is only the sacrifice of a little more material than usual to beauty, which is a primary object of art.

THE TRUE CHARACTER AND FUNCTIONS OF ART.

THE Bishop of Lincoln (Dr. Wordsworth) last week delivered a lecture in St. Mary's Church, Nottingham, on "The True Character and Functions of the Arts of Painting, Sculpture, and Architecture," in connection with the proposed Museum of Art on the Castle Hill of Nottingham.

In the course of it he said—The true function of art is to endeavour to discern ideal beauty, and to present its imagery to the eye by pictures of visible forms, not losing their identity, but transfigured, and spiritualised, and bathed in heavenly light and glory. Such sentiments as these inspired the noblest artists, and especially that man who holds a high place as a painter, sculptor, and architect, and also as a poet—Michael Angelo. Let us apply these principles to the arts of design. What is it in architecture that excites admiration? It is something derived from the unseen and eternal world, and which raises the mind upward to it. For example, in contemplating some grand ancient Doric Temple, such as the stately Parthenon planted on the rock of the Athenian Acropolis, as it stood of old, above the din of the city, and above the crowd eddying in the agora below it;—or the Cathedral Church of Lincoln, rising in majestic dignity above the smoke of the busy city beneath it—we are moved by a delightful sensation of something grand, solid, sublime, substantial, and enduring, something elevated above the atmosphere of this world, and superior to all its weary cares and toils, and its restless changes and chances; and under its influence the mind is raised upward and has a foretaste of future bliss, and enjoys a calm vision of that heavenly and everlasting repose and pure unsullied delight which we may hope to enjoy after the labour of this life in the blissful Sabbath of eternity. So again, in the interior of Westminster Abbey and of our great Cathedral Churches, the interweavings and interlacings of light and shade, and the gradual revealings of new and ever varying vistas to the eye of the spectator, as he advances eastward from the west door, suggest to his imagination the feeling that there is a world ever beyond him, and give him glimpses of infinity. In the grandest buildings, also, of the Italian style, such as St. Paul's Cathedral, the view of the interior of the dome, like a heaven suspended above us—especially if the vault be adorned with beautiful forms of saints and angels floating in the air (as in the frescoes of Correggio, in the Duomo of Parma), and melting away in the aerial abyss of the sky beyond—lead the imagination upward, by means of the architectural heaven, to the pure empyrean above, and enable it to soar aloft to the presence and throne of God.

In sculpture the main purpose is to produce a feeling of calm repose and joy after energetic action. The most famous statue of antiquity—the Apollo Belvedere—represents this idea in perfection. He is not in action, but is contemplating with pleasure the effect of his own act. The most beautiful series of sculptured figures—the Panathenaic frieze of the Parthenon—represents a succession of graceful forms on horseback, moving onward in an ideal stream and river-like flow of beauty, in order to present themselves in reverential homage to the Deities, seated in serene and joyous majesty, at the end of their career, and in order to participate, as it were, by a spiritual apotheosis in their heavenly repose and divine glory, after a course of earthly motion and human exertion—like a rapid river losing itself in the peaceful bosom of a pellucid lake. The same may be said of the succession of triumphal arches spanning across the Via Sacra at Rome. The victor stood aloft upon their summit, in his triumphal car; this was his transitory action, but it was action leading to repose and joy. The Via Sacra led up to the Capitol, whither he rode to render grateful praise to the Deity for his victory; and thus he was immortalised for ever as a conqueror mounting upward to heavenly glory. The triumphal columns at Rome—such as that of the Emperor Trajan—represent a similar idea of human action, winding upward by an ever-ascending spiral of earthly labour to a serene apex of celestial quietness and victory. The sculptured group in which Laocoon and his two sons are represented as struggling to disengage themselves from the grasp of the venomous serpents, coiling around and strangling them, has been the subject of controversy from the time of Winkelmann and Lessing. The noble expression in the father's countenance is supposed by the former to represent parental love and pity

felt for the sufferings of his children, and triumphing over his own pain. The latter ascribes it to the genius of Greek art, shrinking from the representation of excruciating agony. With deference to both these great names we may perhaps be allowed to express a doubt whether (notwithstanding the merits of this work extolled by Pliny the elder and others) it belongs to the best and purest age of Greek art, and whether it was not rather a production of later days, when the mind was familiarised with scenes of savage cruelty and mortal sufferings in the gladiatorial shows of the Roman arena? Let us apply these remarks to another department of sacred art—that of stained glass windows in churches. The glass stainers in ancient times acted on the principle of leaving the outlines of their figures dimly defined and intermingled with white glass, inviting the eye to the heaven beyond it, so that the imagination had fair play in helping the faith of the spectator to complete the work by an ideal picture in his own heart and mind. But in modern days the action of the imagination and of faith is too often fettered and paralysed, and the mind is overpowered by brilliant transparencies, stereotyping upon it common-place forms, and haunting the memory with prosaic and vulgar representations of sacred persons and subjects, which ought to be veiled in mystery and to be idealised with reverential awe.

Let us descend to a lower level. The principles now submitted to your consideration may be applied also to landscape paintings and to portraits. What is it that imparts a charm to the mellow tints of sunset in the pictures of Claude or Turner, and to the rich foliage of the trees, and to the quiet bridge over the flowing river, and to the cattle reflected in the water, and to the old ivy-mantled tower or ruined temple, and to the calm expanse of the broad lake, and to the delicate hues of aerial distance melting away into infinity? Is it not the feeling that under the influence of objects like these we are transported from the petty cares and brief sorrows of to-day to a far-off age, and to a distant land of an ideal Arcadia, a poetic Elysium, or even a spiritual Paradise? "Soul-soothing Art," the poet may well say—

That gives
To moments caught from fleeting Time
The approaching calm of blest Eternity.

So it is also with portrait-painting. At the present day by the general use of photography (very valuable in representing buildings and in reproducing manuscripts), portrait-painting is in danger of being degraded to the low level and servile drudgery of endeavouring to execute fac-similes. It does not portray the *mind* by means of the mind, but (may we not rather say?) it copies a machine by the help of a machine. It there fails of producing a real likeness. For a man is not what he seems to the eye to be at a particular moment of his existence seized upon by the spasmodic shock of a mechanical process; but what he is in his generalised essence as discerned by the intuitive genius of the artist. The genuine portrait painter will indeed be careful to preserve the personal identity of the subject, but he penetrates below the surface into the inner recesses of the mind. And although his art is affected by conditions of time and space, it goes beyond the limits of both, and reveals some gleams of eternity. May we not say that he will suggest to us some faint glimmerings of what a beloved form may be imagined by us to be in a holier and happier world, when transfigured into a heavenly body by the power and love of Christ?

Let us now offer some practical observations. The condition of art in a country depends upon the character of the people. The present decline of art is due (it may be feared) to national degeneracy. The sense of what is really great, noble, and sublime seems to be on the wane. The great heathen nations of antiquity may well put us to shame in this respect. With them art was a part of religion, and religion was allied with patriotism. If a colony was to be planted in a far-off land, the first thing they did was to erect a magnificent temple. The great temples still standing at Paestum, at Selinunte, at Segeste, and at Girgenti are enduring monuments of their national genius and national piety. When Athens recovered from the incendiary ravages of the Persian invasion, the first thing she did was to build the Parthenon, her great national temple, in greater splendour than before. With them the temple of the deities were their national palaces, and the palaces of their nobles were comparatively like huts and cottages. It is a humiliating question for ourselves; Has any great Cathedral church been erected by the English nation—the richest in the world—in any of her own colonies? Look again at our national monuments. It would be invidious to specify instances. But with a few splendid exceptions the public works of painting, sculpture and architecture in our own age, one of boundless wealth and lavish prodigality in personal self-indulgence, can hardly bear comparison, as to true genius and feeling, even with those of the petty Italian states of Pisa, Florence, Genoa, and Venice; to say nothing of the works of ancient artists, which even in their ruined and fragmentary state are still models to ourselves. Bear with me in referring also to works of education. Think of the grotesque and monstrous caricatures which disfigure many of the books placed in the hands of our children. How can they ever learn to appreciate and love what is really graceful and beautiful in art, when their minds are prematurely depraved and corrupted by familiarity with what is either hideous or ludicrous? But let us hope for better things. And that this hope may be realised let art be mindful of her high calling. Her office, like that of poetry, is to teach, to educate, to elevate, adorn, to enlighten, cheer, refine, and purify society. A true artist is a good man. He regards his art with reverence. May we not say that he will not consider himself as a mechanic toiling in a workshop, but rather as a prophet and priest, ministering in the natural temple of the universe for the glory of God and the welfare of mankind? No study, however severe, both of nature and the best models, is superfluous in so noble a profession. No industry however unrelaxing, no observation however vigilant, no accuracy however minute and precise, are to be dispensed with. But these will be unavailing without a spirit of moral self-dedication. He will labour not only with the eye and the hand, but with the mind, the soul, and the heart. And therefore he will be conscious of the need of Divine grace, and of inspiration from above.

ILLUSTRATIONS.

DESIGNS FOR A NEW ALTAR-SCREEN AND SEDILIA FOR KING'S COLLEGE CHAPEL, CAMBRIDGE.

By MR. W. BURGESS.

THE accompanying illustrations are photo-lithographed from drawings by Mr. T. M. DEANE, a son of Mr. T. N. DEANE, R.H.A., the Dublin architect, and a pupil of Mr. BURGESS. The figures were drawn by Mr. H. W. LONSDALE.

We append the interesting report to the Rev. W. R. CHURTON, Mr. J. P. CARTER, and Mr. F. T. COBBOLD, which accompanied the drawings:—

GENTLEMEN,—Some two years ago you were good enough to express a wish, conveyed to me through J. P. Carter, Esq., that I should make a report upon the condition of the eastern portion of the interior of your College Chapel with suggestions for its improvement, together with a design for a new altar-screen.

I accordingly proceeded to Cambridge and went very carefully over the building, aided by Mr. Carter's work on the chapel which provided me with the necessary documentary evidence, and from which I propose to draw so much of the history as relates to the eastern portion. I also sent to Cambridge Mr. J. A. Reeve, a gentleman from my office, who made careful measured drawings of such parts as were wanted for my purpose. These drawings, which were plotted on the spot, will be found at the end of the report.

King Henry laid the first stone under the place intended for the high altar: which place, we are told, was 14 feet from the middle of the eastern wall. By this we are to understand that it was intended to adopt the usual arrangement of large buildings where there was plenty of space—viz., to put the altar and the screen not against the eastern wall, as would have been the case with an ordinary parish church, but to bring them forward (in this instance to the middle of eastern bay) and have another smaller altar against the eastern wall. As we shall see, this arrangement is distinctly mentioned in the case of Eton College, and an actual example is still to be found in the Collegiate Chapel at Arundel Church, Sussex, where both altars still remain in situ.

March 12, 1447–48, supplies us with Henry's will: here directions are given that the pavement of the altar was to be 3 feet above the pavement of the choir. No further directions are given respecting the altar, but the same document in another place tells us about the intended altar for Eton College—viz.,

"Item, that the said growndes be soo take that the first stone lie in the myddel of the high altar, which auter shall conteyne in lengthe xij fete of assise and in brede v fete."*

It is needless to say how the work languished after Henry's deposition and death, and how it was finished as regards the work itself partly by Henry VII. and partly by his executors in 1515, about 69 years from its commencement. Then, finding that no more money was to be obtained from the executors, Provost Hacumblen petitioned Henry VIII. for assistance in obtaining the furniture.

The stained glass appears to have been one of the results of this application, and then followed an estimate of sundry other works considered necessary. This latter document is still in existence, and must have been written about 1530 as no mention is made of the windows which were probably already executed, while the rood-loft which is of the date 1534–36 was not begun.

From this document we obtain the following information as regards the eastern end of the chapel:—

1. That there were to be 48 images within the church, every one of them 3 foot high. These were doubtless to occupy the empty niches in the window jambs.

2. That the high altar was to cost by "estimation" 100 shillings; that sum (about 60*l.* of our money) can only represent the altar itself without screen or dossell, but it has been suggested that perhaps some tryptich was used for that purpose.

3. That a very large sum, 320*l.* (3,840*l.* of modern coin) was allotted to the "gilding and paynting of the great Vawte."

It is very probable that the execution of many of these works followed immediately the estimate, such as the rood-screen which bears Anne Boleyn's cypher; others on the contrary were not done at all (at least as far as we know), such as the images in the jambs of the windows, while others appear to have lingered in their execution, for 1543 we find the following bill:—

"Item per manus M ^r Lyne pro cariagio altaris a domo M ^r Butt ad garderobam et a garderoba ad bisshopgatt ij ^s . x ^d . Et pro Nayll quarters et borde ad faciendum le case pro salva vectura ejusdem ix ^s . viij ^d . et pro stramine et corde ad tegendum dict ^e case v ^d . et pro pabulo equorum londini et in expensis ad canteb v ^d . viij.	} xvij ^s . vij ^d .
"Item pro cariagio dicti altaris a londino ad canteb. vltra xx ^d . dat ^e per M ^r Butt	
"Item M ^r Antonio pro celatura iij imaginum . . .	
"Item eidem pro celatura unius columnne . . .	
"Item Kolley pro gildyng iij images . . .	x ^s . iij ^d .

From this we obtained the information that the altar was made in London; that an Italian (perhaps some workman or scholar of Torrigiano) was employed in the figures, and that not only figures but carved or chased (metal) columns entered into the composition. It is not unlikely that these columns may have been square piers with arabesques like those still preserved in the Ashmolean Museum at Oxford.†

* In another subsequent document the altar is to be xviii by iv¹/₂, but I am told that the dimensions of Eton Chapel were enlarged after the publication of the will.

† From the word "celatura," it is possible that these columns may have been in bronze; the Oxford ones are in white marble, and may have formed part of some work of Torrigiano.

This altar did not remain long in its place, for in 1549 16^d is paid to certain persons for removing the altar; but shortly after Mary's succession a new altar was set up, as we are told in Marc's diary that

"It. the Vic. (Vice-Chancellor) went to Doct. Blythes and bought tables that wer the kynges College awiter."

This state of things did not last, for in the account book under the head "Custus Ecclesie" we find

"It^e sol^e Rowlande et Dowses destruentibus summam aram . . . viij^d.
"Imprimis sol^e pro tabula preceptorum Dei pro summo altari . . . xij^d."

In 1564 Queen Elizabeth during a royal progress visited the Chapel; then we are told

"The kings college church was hanged with fine tapestry, or arras of the Queens, from the north vestry dore round by the communion table, unto the south vestry dor; and all that place strawed with rushes. The communion table and pulpit hanged richly.

"Upon the south side, about the middle between the vestry dore and the communion table (which stood north and south) was hanged a rich trave of crimson velvet for the Queens Majestie; with all other things appertaining."

From this it is evident that the tapestry was part of the furniture which the Queen carried about with her, and that her seat probably occupied the place of the sedilia. It has been doubted whether the strewing of the rushes might not indicate that the sacrum was still unpaved, but I think the fact will hardly bear this interpretation.

About 1633–34 the altar was reconstructed with screen behind it at the beginning of the eastern bay. The following is the description of the work, which was written shortly before its demolition in 1774:—

"The High Altar is not erected immediately under y^e E. wall or window, but at a pretty distance from it against a fine wainscot screen for y^e purpose w^{ch} runs quite across y^e chapel from y^e division of y^e 1st. and 2^d. window w^{ch} has a kind of canopy over it adorned with fine carved work; and in the middle directly over y^e Altar are y^e arms of y^e College royally crowned and on each side of it 4 Fleurs de Lis de Florence crowned also, on each side of y^e rails is a door finely carved to enter y^e aforesaid roid space; and over y^e south one are y^e arms of King James y^e 1st. (Charles I?) over y^e S (N?) door y^e arms of K. Hen. VI. These are elegantly carved as is all which is about y^e screen of y^e altar. Under both these arms on y^e door carved H R w^{ch} portcullices, &c. The back of y^e altar is hung wth a rich silk Damask of purple and crimson w^{ch} a fringe of y^e same quite as far as y^e rails reach. The furniture of the altar is of the stuff, viz., covering, cushions, and large kneeling stools on both sides; tho it is always covered ag^t wth a fine Damask linnen cloth. On an eminence on ye altar ag^t ye screen w^{ch} is also covered like ye Altar itself stands ye noble embossed silver Dish given by Sir Thos. Page and w^{ch} has y^e representation on it curiously wrought of ye Lords Supper, & on each side of it stand two magnificent silver candlesticks given by the same person as also was ye small fligree worked Silver Paten w^{ch} stands under ye aforesaid Dish on ye Altar. The Altar stands on an eminence of one step above y^e rest all round and railed in ab^t it with neat wainscot round y^e. On ye outside blew cloth cushions to kneel on. The screen w^{ch} ye altar is placed ag^t was put up in ye year 1633, but I suppose there was one before in ye same place."

The wainscoting at the backs of the stalls is of the period 1633–34. The next notice occurs in Dowson's diary under Dec. 26, 1643; here we find:—

"Steps to be taken and 1 thousand superstitious Pictures ye layder of Christ & thieves to goe upon many crosses and Jesus write on them."

It must be confessed that this sentence is somewhat incoherent; however, it is sufficiently clear that a levelling of the altar steps was intended if not carried out.

The canopies of the stalls and panelling eastward were completed in 1670.

The last change was the removal of the Caroline reredos and the altar to the extreme east end, a change to be deplored from every artistic point of view. The architect, Mr. Essex, to whom we owe work in Lincoln Cathedral and elsewhere, was certainly the most distinguished Gothic architect of his day. The principal feature of the altar-screen is a picture of the Descent from the Cross by Daniele da Volterra. Unfortunately Mr. Essex was not satisfied with his own additions to the furniture, but set to work to improve the architecture itself by inserting two large niches in the space between the angles of the building and the jambs of the eastern window.

It is useless for me to describe this modern alteration; suffice it to say that any restoration, however conservative, would demand in the very first instance the removal of the woodwork in question as well as the obliteration of the niches.

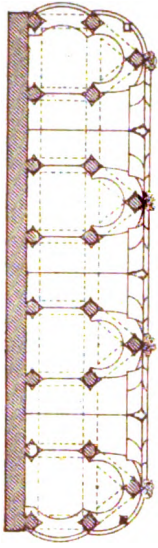
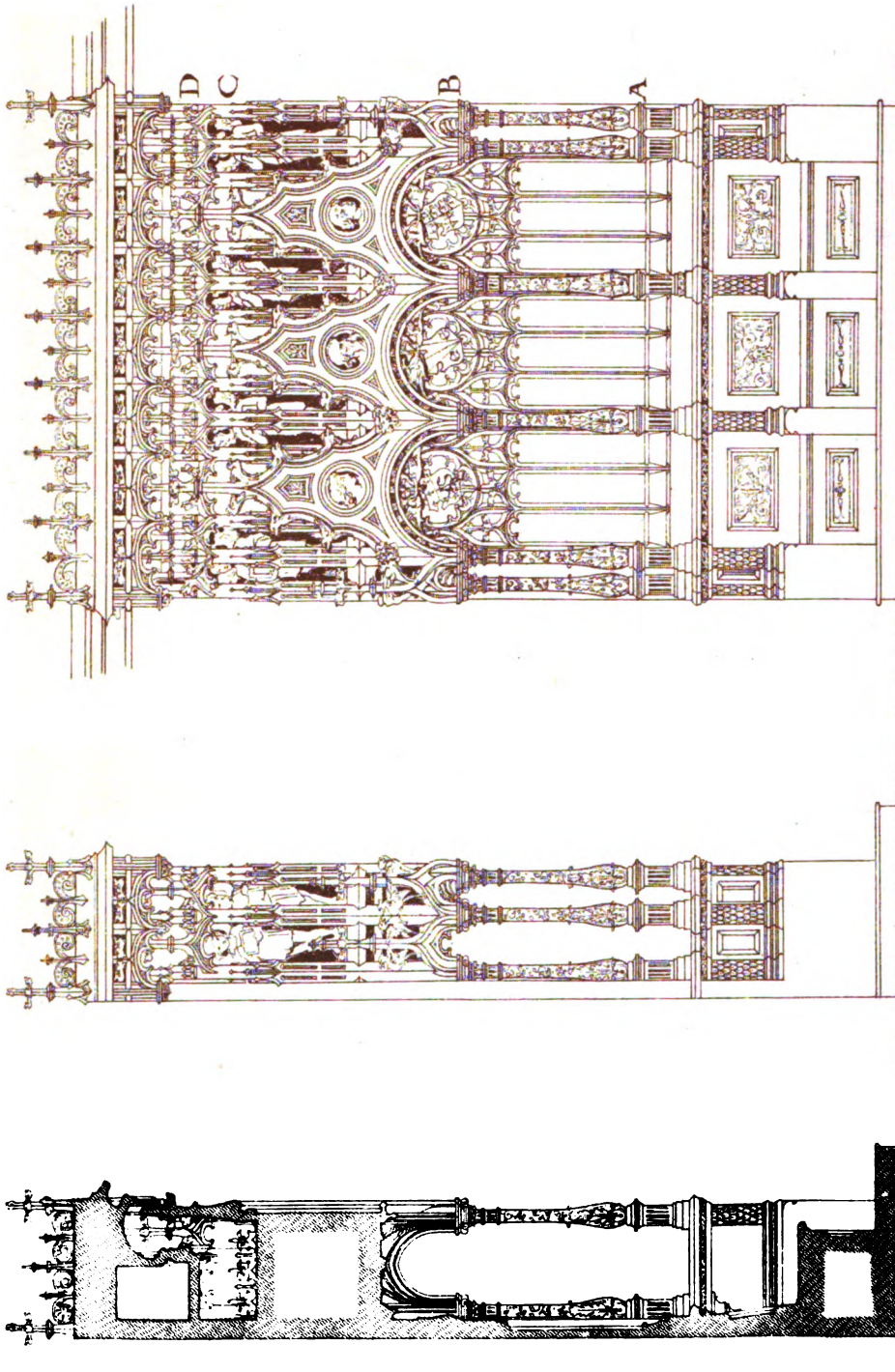
Thus much for the history of the arrangements of the eastern end of the Chapel. I now propose to submit to you the various alterations which appear to be desirable.

It is evident that the first and most important step will be to bring back the altar and altar-screen to their ancient place—viz., the middle of the easternmost bay.

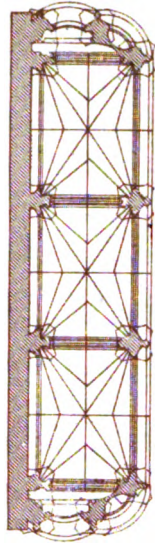
The special characteristic of the Chapel is the immense preponderance of its vertical lines, and in order to heighten this effect the strong horizontal line at the top of the screen will be found infinitely serviceable. At the same time this line will in its turn require breaking up, which has been effected in the design by the introduction of sundry statues, &c., on the top.

In the Perpendicular period it was a very common arrangement to make the altar-screen consist of a number of vertical niches; thus in the directions for the execution of the high altar of Eton College we have "Our Lady," "St. Nicholas," "Our Lord," and "The Twelve Apostles." In the present case, owing to the breadth of the Chapel, such an arrangement would have

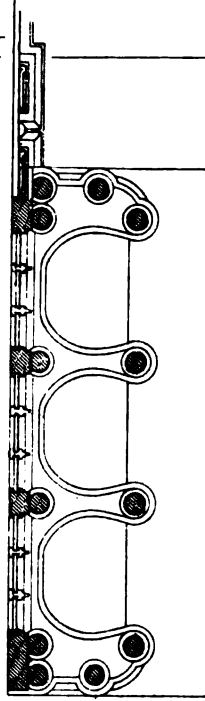




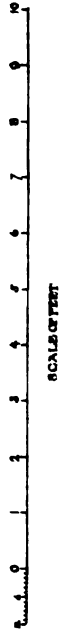
PLAN AT C

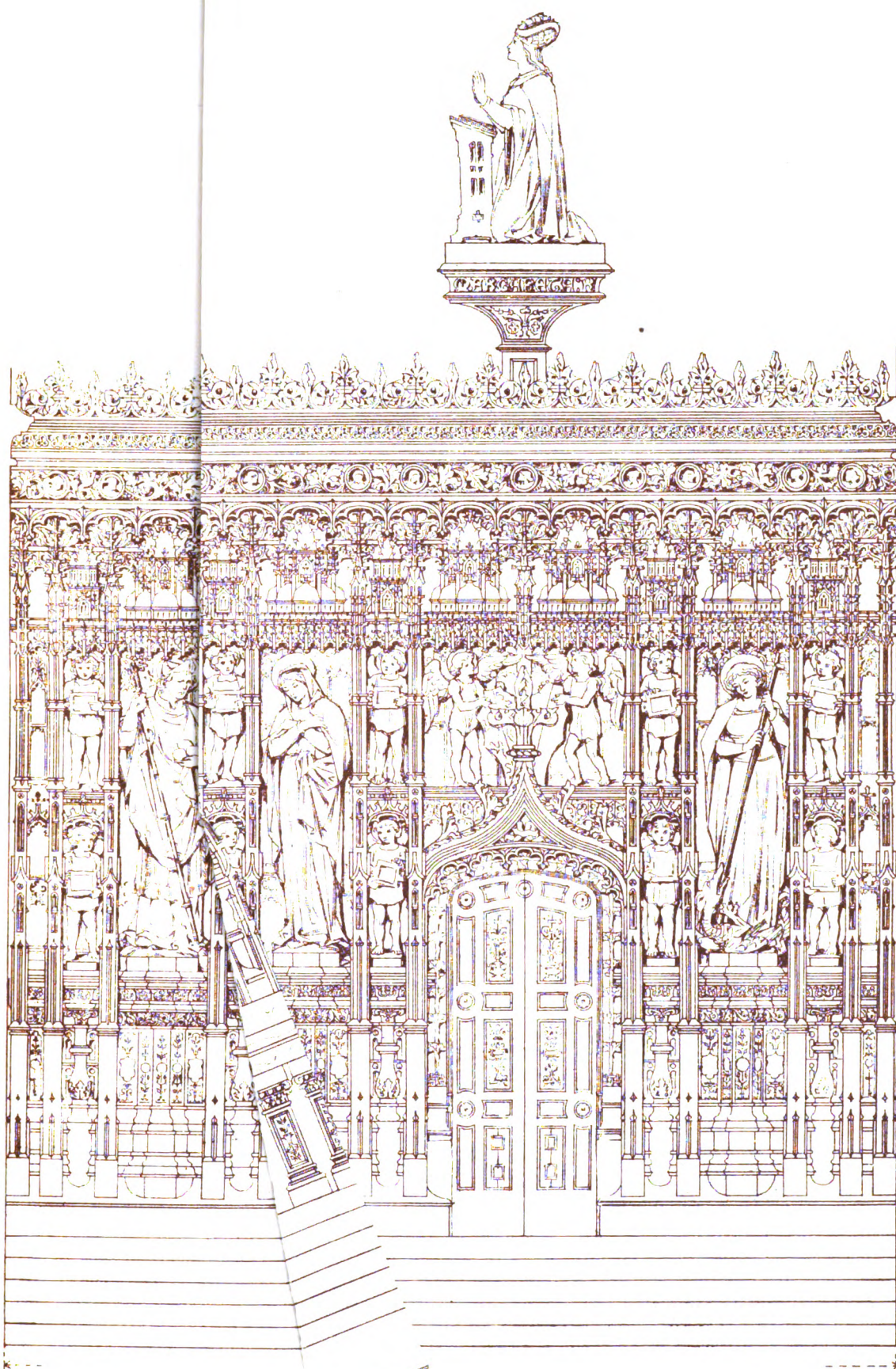


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PLAN AT A

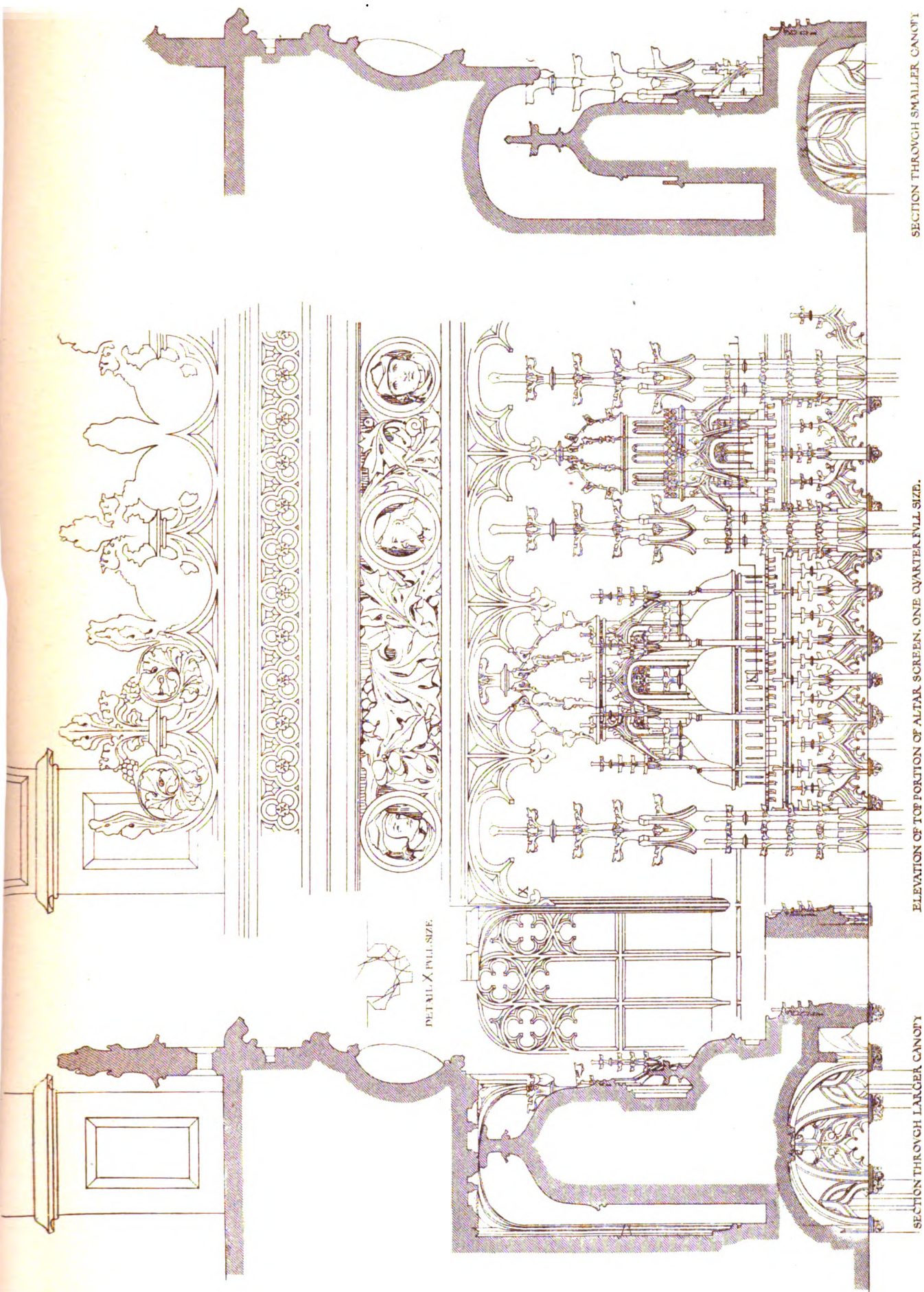




CHAPEL 9

Designed by W. W. Spanghan & Co. London. E. G.





SECTION THROUGH SMALLER CANOPY

ELEVATION OF TOP PORTION OF ALTAR SCREEN, ONE QUARTER FULL SIZE.

SECTION THROUGH LARGER CANOPY

DETAIL X FULL SIZE.

DESIGN FOR A NEW ALTAR SCREEN, KINGS COLLEGE CHAPEL, CAMBRIDGE
BY W. BURGESS.

Designed by W. Burges & Co. London, E.C.



been monotonous. I have therefore varied the composition by making the niches over the altar very much larger than the others and filling them with groups instead of single figures. In the length of the altar (18 feet) I have followed the directions for the Eton altar, thereby obtaining ample space for the three centre niches and their groups of figures.

These groups illustrate the story of the Birth of Our Lord. The centre one contains the Blessed Virgin and the Infant Saviour, St. Joseph, the manger and the oxen. On the sinister side is the Adoration of the Magi, and on the dexter the Vision of the Shepherds. The large niches on either side of the altar are filled with statues of the Blessed Virgin, St. Gabriel and St. Nicholas in allusion to the dedication of the Chapel; but as a fourth niche remains to be filled I have ventured to put in the patron saint of the founder's queen, St. Margaret. The minor niches are occupied with small figures of youthful angels, such as form a special characteristic of works executed at the beginning of the sixteenth century. The tablets which they bear might be inscribed with suitable texts or emblems.

This leads to the consideration of the style of the proposed work. In this case I have endeavoured to steer a middle course between the pure Perpendicular of the architecture of the Chapel and the equally pure Renaissance of the rood-screen. Happily we are not without examples of this *via media* in England, and we are especially fortunate in having a most excellent one not far from Cambridge, in Bishop West's Chapel in Ely Cathedral. I strongly suspect that the upper part of the work in question is later than the lower, but this latter will be found to answer all we require. The architecture itself is nearly pure Perpendicular, but the smaller ornaments are executed in the style of the most charming Renaissance. This I have endeavoured to follow in the present design, and the detail-drawings will show exactly the amount of the two elements.

I need scarcely say that this work could be executed in various materials—soft stone, marble or alabaster all possess advantages, although from the necessary costliness of the work the former of the three will doubtless have the preference. It should however be remembered that to make a perfect work soft stone would eventually demand full polychromy on account of its softness and liability to collect and retain dust and dirt, while alabaster or marble would only demand colour in a much lesser degree.

I should, however, in any case recommend marble for the altar and super-altar, as these parts are especially liable to injury. The pilasters forming the altar supports might, however, be made of bronze with very good effect.

The next things to be considered are the steps. I find there is some slight difference between the measurements given in Sir G. Scott's report and those made by Mr. Reeve under my directions. Sir Gilbert makes the distance between the present level of the sacrum and the beginning of the ashlar of the walls at the east end as 9 inches; Mr. Reeve reduces it to 5½ inches. The former height allows six steps between the level of the pavement of the third bay from the east and that of the ancient sacrum. The latter measurement only necessitates five steps. I have marked on either side of the plans the respective arrangements in red lines. I should observe that Sir G. Scott appears to have had the panelling removed, for he says—

"The ashlar drops a little at the termination of the (eastern) bay, and again in a greater degree at about 6 feet further westward."

Of course both systems of red lines have been arranged in accordance with this discovery, but they both labour under the disadvantage of precluding the adoption of sedilia upon the sacrum level. In the plan itself I have endeavoured to show how sedilia could be introduced, but it follows that their employment would necessitate a different arrangement of steps to that indicated by the state of the ashlar of the walls as described in Sir Gilbert Scott's report.

Should, however, the preservation of the ancient levels be considered an essential point the sedilia might be stepped, and thus accommodate themselves to the various heights. I have appended a design for the sedilia which should, I think, be executed in a dark wood—such as walnut.

The last consideration is the polychromy. From the estimate for the furnishing of the chapel it is evident that a very considerable sum was to have been devoted to the polychromy of the great vault. It is doubtful how far the effect of so large and so monotonous a surface of painting would have been successful. My own advice, had I to solve such a problem as the decoration of this chapel, would be this:—I should put all the masses of colour at the base of the building as in the Lady Chapel at Ely.

Thus the greatest richness would be reserved for the altar screen, of which it may be broadly said that the figures would be golden, the architecture white, and various colours woven into them in the shape of ornaments and back-grounds; the oak panelling on the north and south walls would be retained and heightened with gilding. Painted leather on a gold ground would, however, occupy the spaces between the pilasters; and from thence to the altar-screen the blank spaces would afford opportunity for the display of tapestry, gilded leather, or other similar hangings. The colour thus would ascend, for I should propose to fill the little niches with statues fully polychromed. Lines of colour would emphasise the several mouldings of the window-jambes, caps of columns, &c., and finally die out in the roof. The bosses and carving, however, would be fully coloured.

There should be a rich pavement of marble or tiles, or even the two mixed together, but in which ever it is done it should never be forgotten that the gold groups of the dossell should be the eye of the church, and that all the rest of the colour should work up and be subordinate to them.

I hope it will be distinctly understood that by the expression of "golden groups" I do not intend to cover these statues with gold and simply leave them; on the contrary I would burnish some parts of the gold—some partly I would deaden, and others I would tone with a tint of colour. I would work ornaments with thin lines upon nearly every part, and the faces would be coloured according to nature. Thus, while at a distance, the effect would be simply a golden or amber colour, on nearer view it would resolve itself into a collection of variously tinted golds.

It must be confessed that it will be somewhat difficult to find a use for the space behind the proposed altar-screen, which in pre-reformation times

was doubtless occupied by a small altar like the example still at Arundel. At Eton this altar was to be dedicated to "Our Lady." As, however, our present ritual demands but one altar, the space must necessarily remain void, unless, indeed, it can be made available for some of the uses, of a vestry.

It might possibly be expected that I should state something respecting the probable cost of the proposed altar and its screen. From every circumstance this work must necessarily be a very costly undertaking. I have appended the detail drawings not only because they were necessary to the execution of the general drawing, but because they would help the mason and sculptor to make some approach to a correct estimate.

I have submitted the work to Mr. Nicholls, of Hercules Buildings, Lambeth, and he is of opinion that the mass of the screen will cost 3,400*l.*, the figures 2,800*l.*, and the altar 800*l.* Including woodwork, carriage and fixing, and architects' commission, &c., the whole would amount to about 8,000*l.* These are doubtless large sums, but on the other hand it must be remembered that the execution would necessarily extend over a very considerable space of time, and thus render the outlay less burdensome.—I remain, yours faithfully,

WILLIAM BURGESS.

15 Buckingham Street, Strand, London, W.C.,
July, 1874.

THE ARCHITECTURAL ASSOCIATION.

THE annual general business meeting of this Association was held on May 14; Mr. G. H. Birch, president, in the chair. Mr. H. Sheldermine having been elected a member, a vote of thanks was passed to the entertainment sub-committee, and especially to Mr. Cutler, the acting secretary, for their services in connection with the members' annual *soirée*.

The Philadelphia Exhibition.

The President said that he had received the following letter:—

Downing Street, April 23, 1875.

Sir,—I beg to inform you that Her Majesty's Government have accepted the invitation of the President of the United States to take part in the International Exhibition to be held at Philadelphia in 1876, and have decided that the interests of the British section shall be entrusted to the charge of the Lords of the Committee of Council on Education.

I have appointed Mr. Philip Cunliffe Owen, C.B., to act under my direct instructions as Executive Commissioner; and so soon as the preliminary arrangements are completed he will have pleasure in giving you full information on the subject of the Fine Art Department of the Exhibition, and in due course will communicate to you the facilities and assistance to be provided.

In the meantime I trust that you will kindly make known the intentions and wishes of the Government to the members of the Architectural Association, and that by their assistance the arts of this country may be worthily represented at Philadelphia.—I have the honour to be, sir,

Your obedient servant,

RICHMOND.

The President of the Architectural Association.

Mr. BRICK said he was sure that the Association would respond to the invitation, and endeavour to be well represented in the Exhibition at Philadelphia.

The Architectural Alliance.

Mr. S. FLINT CLARKSON, referring to a proposal which had been mooted for the affiliation or fusion of the Architectural Association with the Royal Institute of British Architects, said it was thought desirable that a letter on the subject received from Mr. J. Douglass Mathews, the Hon. Secretary of the Architectural Alliance, should be read. It was as follows:—

"10 Cloak Lane, London, March 15, 1875.

Dear Sir,—You are probably aware that a short time since a committee was appointed of the Royal Institute of British Architects to consider the best means of extending the usefulness of that body.

A few days ago a letter, of which the following is a copy, was received from Mr. Eastlake, the Secretary of the Royal Institute of British Architects, enclosing a letter from the Royal Institute of Ireland, a copy of which is herewith sent:—

"9 Conduit Street, Hanover Square, W.,

February 22, 1875.

Dear Sir,—I send you enclosed the printed copy of a letter recently received by the Council of the Institute from the Royal Institute of Architects of Ireland.

I am requested to beg that you will kindly bring the same under the notice of the Architectural Alliance, and obtain their official opinion on the proposed scheme of affiliation to this Institute, and the possibility of extending it to the leading architectural societies in the kingdom.—Awaiting the favour of your reply, I am, dear sir, yours very faithfully,

(Signed), CHARLES L. EASTLAKE, Secretary.

The Hon. Secretary of the Architectural Alliance.

The following is a copy of the letter enclosed with foregoing:—

"Royal Institute of the Architects of Ireland,

212 Great Brunswick Street, Dublin,

December 10, 1874.

My Dear Sir,—The question of certain reforms in the constitution of our Institute having been lately before the Council, I am directed by it to open communications with you in respect to the most important of the desirable changes urged on us by some active members of our society, and which have been received with favour. The Council are of opinion that it would strengthen the position and weight of our local society, and perhaps

add some accession of influence to the Royal Institute of British Architects, if an arrangement could be effected by which in the main our body would be affiliated to it, recognising it as the parent and central society, and acting in absolute harmony and uniformity with your laws, professional code of practice, scale of charges, &c., by which we would be guided, and which we believe are now almost identical. (I enclose copies of our bye-laws and the scale of professional charges, for your information.) The feasibility of such a suggestion being put in practice, is brought before us by the 'chapter' system of the American Institute.

Our ideas are that, without any violent change in the constitution of our body, or even in its designation, or without ceasing to exercise any of its local functions, it might be so merged into the parent Institute as to become practically one; and this process we would propose to effect by presenting for admission to the R.I.B.A. all members of our local society desirous of joining it, leaving your Institute, under its existing bye-laws or such relaxation of them as may be considered desirable, to elect into the different classes such applicants as may appear eligible for each; and our expectation is, that if a satisfactory arrangement could be effected, the main body of the Fellows and Associates of our Institute would be desirous of admission to the senior society and would be admissible, and that a fusion would be practically accomplished in course of time, which would go to solve a problem, now, we have reason to believe, occupying the attention of your Institute in regard to all local and isolated societies.

The question of most practical importance to be discussed between us, should our proposition be entertained, will be a financial one, viz.: To fix a rate of subscription to cover the fees to both the central and local societies, without being so high as to be a bar to the success of a scheme in which we are so interested; but we submit that this may be accomplished somewhat after the manner in which clubs regulate the subscriptions of their foreign and military members. The Council are, however, of opinion that this is a detail for future discussion, and they cannot but feel confidence that your Institute, should it heartily take up the question of "Affiliated Members," if I may so call them, would not hesitate to vary its bye-laws in such respects as may appear necessary.

I have authority to lay our proposal before your Council in this general form, and to invite further discussion of it; could any practicable scheme be defined satisfactory to our respective Councils, we think we can assure you it would be accepted by our Institute. The present members on our lists are thirty-six Fellows, twenty Associates, and ten Students.

I am, dear sir, yours very faithfully,
GEO. C. HENDERSON, Fellow and Hon. Secretary.

Charles L. Eastlake, Esq.,
Secretary, Royal Institute of British Architects.")

The question of the practicability of merging the local architectural societies into the Institute has repeatedly occupied the attention of the Alliance; and, in accordance with a resolution, a sub-committee of the latter held a conference with a sub-committee of the Institute in the year 1871, but by the present constitution of that body no satisfactory course could be arrived at.

There can be no doubt that it would greatly strengthen the profession if the Institute comprised the whole, or, at any rate, a large majority of the practising architects in the United Kingdom, but it appears impracticable, if even it were desirable, that this should be accomplished by the dissolution of the several local architectural societies.

It would therefore seem that the most advisable plan would be as suggested in Mr. Henderson's letter to recognise the Institute as 'The Parent and Central Society'; but before this could command the support of architects generally, and especially those practising in the provinces, there must be such an alteration in the working of the Institute as would render it of real practical benefit to the profession.

In order the better to illustrate some of the means whereby this might be accomplished, the following ideas have occurred to me, which I venture to submit for consideration:—

Facilities for membership by the recommendation of the President and Council of the local societies.

The representation in the Council of the R.I.B.A. of architectural societies possessing a certain number of architect members.

The establishment of a Board of Arbitration for all matters affecting an architect's practice, at which the country members should be represented, and in cases of local custom the societies should be consulted.

The establishment of a committee or some properly constituted authority to examine and experiment upon new materials and inventions, with power to consult authorities thereon.

The establishment of a committee to watch all proceedings connected with the profession, and to publish and circulate reports to all the societies.

A reading-room at the rooms of the Institute, and means afforded to country members for writing and receiving letters, and interviews when in London.

The publication as far as possible of all Papers read at the several societies, the editorship of which should be undertaken by the Institute.

The organisation of examinations at certain towns as centres in the United Kingdom under the supervision of local moderators, who would forward the examination papers to the examiners in London, under seal.

The interchange of visits from members of the several societies, and contributions of Papers from the local societies to the Institute.

The establishment of some means whereby all respectable practising architects should be at once admitted members on payment of the usual fees, and in future admission should be obtained by passing a written examination, which, without being difficult, would show that the applicant was in a position to practice as an architect, except in cases of undoubted professional knowledge, as evidenced by executed works or other cause satisfactory to the examiners.

You will please consider that the foregoing are not put forward in a cut and dried form, but are merely ideas, and submitted in order that they may be the means of eliciting the general opinion, and of producing other suggestions; and although difficulties may appear at the outset, if the general principles are established, the details will doubtless follow in due course.

I shall feel obliged if you will take an early opportunity of bringing the subject of this letter under the notice of your society, and reporting to me thereon by the end of April, after which time the sub-committee of the Alliance will meet to receive the opinions of the several societies, and probably confer with the before-mentioned committee of the Institute.

I am, dear sir, yours faithfully,
J. DOUGLASS MATHEWS, Hon. Secretary."

Mr. MATHEWS said that this was about the only action the Architectural Alliance had taken since the meeting that was held after the Conference. Most of the suggestions in that letter were, he thought, adapted rather to the country societies than the London society, but if any more suggestions could be offered he should only be too glad to hear them. He believed that the Institute of Architects had made some definite proposal to the Association, or had asked for a conference with a view, if possible, to the affiliation of the Association and the Institute. The subject having been discussed in the professional journals, he thought it would be very satisfactory if the president could give them some information as to the position of affairs.

Mr. BIRCH said that as the question referred to had become a matter of public notoriety, he had much pleasure in replying to Mr. Mathews; but all he could say at present was that the subject had not yet come before the Committee of the Association in any definite form.

After further observations from Mr. R. Phené Spiers, Mr. A. Payne, and Mr. Todd, Mr. MATHEWS remarked that the Association occupied a different position to the other allied societies, being in fact an association of students, and its amalgamation with the Institute was therefore not likely to prove so desirable as might be the case with the country societies.

Ultimately, upon the motion of Mr. Quilter, seconded by Mr. Robertson, the following resolution was passed:—That the subject of affiliation or fusion with the Royal Institute of British Architects should not be discussed at a general meeting until it had been before the committee for consideration. A vote of thanks was also accorded to the delegates of the Architectural Alliance.

Mr. BIRCH stated that a letter had been received from Mr. Florence complaining of the limited number of applicants to join the Water Colour class, and stating that the class would have to be discontinued until some more names were received.

The following Paper was then read by Mr. BANISTER FLETCHER on

Valuations of Property.

It may with safety be said that no branch of our profession is so open to fluctuation—is so little guided by set rules—or is so disheartening to the beginner and to the inexperienced as that of the valuation of property. The tyro, having to give his opinion of the value of certain premises, will make a careful survey, minutely estimate the dilapidations, work out an elaborate calculation by the aid of the tables, and confidently declare the result, only to find to his confusion and dismay that that result differs to a very alarming extent from the estimate of old and experienced practitioners, to whose superior judgment he feels himself bound to defer without reservation. And this will probably be because he has omitted from his consideration some latent but important element of which the experience of years and the keenness of insight, which is attendant thereupon, have enabled his more practised colleagues to appreciate the due significance. And this arises because (and I feel it to be a discouraging statement to make before an Association so largely composed of the students of our profession, but truth compels) valuing is, *par excellence*, the branch of our calling in which lengthened observation and experience, and these alone, can impart the knowledge necessary to successful practice. In the case of the architect working out his designs, I do not, of course, for a moment contend that the experience of years is not of the greatest value, but still he is guided to some extent by rule. It is desirable, of course, that he should give free play to his fancy, but, unless he is content to run the risk of producing some bizarre and incongruous abortion which will excite the scorn and derision of intelligent minds, he must still allow himself to be controlled by certain canons of taste immutable as the laws of the Medes and Persians. However much fashion may vary, that which is elegant and tasteful is ever so to a catholic and unbiassed mind; the "thing of beauty is a joy for ever," no matter whether Classic, Gothic, or the irrepressible "Queen Anne" be in the ascendant, and the same artistic principles which are embodied in the majestic ruins of Athens, or the glorious fane of our own Mediæval times will, if faithfully followed, yield equally satisfactory results in our own day. The quantity surveyor having once acquired a thorough knowledge of his branch of the profession, knows that he is going through the same processes as sufficed for his predecessor of several generations back, and that he may rely upon those same processes twenty or thirty years hence (if he have not by that time retired on his well-earned independence) with the same confidence as to-day. Arbitrations, again, are, as explained in my recent work on the subject, governed by set laws which, once known, may be taken as permanent guides. The same is true, in perhaps a somewhat less degree, of the practice of dilapidations. It is true that the feeling—if I may use the term—of the Courts undergoes in course of years certain slight changes, leaning now somewhat towards the lessor, and sometimes more towards the lessee (at the present time the latter is certainly the case), but still, what is considered a dilapidation now was a dilapidation 100 years ago, and in all human probability will be so considered 100 years hence. The land surveyor, too, avails him

self of precisely the same operations and processes of applied mathematics as served for our ancestors, and which, saving perhaps certain slight alterations caused by the increased facilities which the progress of science may afford, will continue to be practised long after everyone in this room has been gathered to his fathers.

But with valuations the case is very different. The valuer has no such set rules to which he may persistently and unswervingly adhere with the glad consciousness that the more unswerving his adherence, the more unimpeachable will be the result of his labours. He may know that it is usual to value a certain class of property upon such a table, after making such and such deductions and allowances, and that it is usual to deduct from the result so arrived at the value of the dilapidations, and he may make this calculation with scrupulous exactness, and then be—well, uncommonly wide of the mark. A successful valuer must expect no honour in his own house, he must forsooth be a bit of a prophet, be able to see into futurity, and calculate to a nicety the consequences of some alteration or improvement in the circumstances of a property, which perhaps at the time of his survey may be looming only very dimly in the horizon. Now, as of this gift of prophecy it may be said as Cato says of success, that "it is not to mortals given" to command it, the next best thing is to deserve it; and this can only be done by cultivating habits of long-continued and patient observation, whereby alone can be gained that experience which I started by alleging to be the indispensable qualification for a successful valuer. And it is my purpose this evening to endeavour to warn you of some of the commonest causes of alteration and fluctuation in the value of property, and the points chiefly to be considered in deciding what amount of importance should be attached to those causes. In order to do this in the simplest form I trust my hearers, some of whom may be aware of my predilection for the *tabulated* system, will excuse me if I adopt that system. Let us first consider in

TABLE I.,

Causes which may tend to the improvement of property, viz.:

Construction of railways, new stations, tramways, canals, harbours, and piers; the establishment of lines of steamers, of cemeteries, and markets; the widening of streets and the enclosure and laying out of commons; the erection of public buildings, of theatres, mansions, and good class houses; the improvement of drainage; fashion; and residence by titled people.

And let us also put before ourselves in

TABLE II.,

Causes which may tend to depreciate property, viz.:

The construction of railways, the removal of railway stations, and the establishment of railway works and coal depôts; also the establishment of gas works, factories, hospitals, barracks, prisons, schools, and music halls; brick-making; the erection of shops near a private neighbourhood, also of small class of houses; occupation by inferior class of tenant of good houses; and bad building.

Now let us devote a few moments to the consideration of these tables, and the reality of the difficulties alluded to will at once become apparent. Foremost in Table I., I have placed railways as being undoubtedly the largest and most sudden cause of improvement in the value of property. And yet in the compilation of Table II., experience has compelled me to assign an equally prominent place to railways as a cause of depreciation! Here there is food for study and a field for the practice of habits of observation.

As a general rule the construction of a railway will beneficially affect the value of the country and neighbourhoods through which it passes by improving the facilities for access and opening up the localities for commercial and residential purposes. This is particularly the case at the points in the line which are selected for the establishment of stations, as these at once become eligible sites for the erection of buildings instead of being, as may heretofore have been the case, useful only for agricultural purposes. But it may be that a locality has become dotted over with gentlemen's residences, occupied by persons of good means, all able to keep their carriages and saddle horses, and that the comparative remoteness of the neighbourhood from a station is an element of value as tending to promote selectness and privacy. The establishment of a new railway station in the immediate vicinity of this select locality would obviously much lessen the value of the existing house property. Vacant sites would no doubt improve in value, because they would be suitable for the erection of smaller dwellings to be occupied by clerks and business people whom the new facility would draw from the neighbouring town; but, their selectness being disturbed, the old residents would leave the neighbourhood, and their residences would be too large and expensive to suit the new-comers. Again, where, as constantly happens, a line of railway will pass close to a property but have no station within a moderate distance, it would operate as a disadvantage, as inhabitants would have all the inconvenience of the noise, without any counterbalancing benefits. And while on the subject of railways and railway stations, let us for a moment contemplate the position of the man whose case is supposed in the second item of Table II., who having bought land and built upon it because it was near a station, finds some time afterwards that the directors through some whim, or because they think the traffic too limited, close the station altogether or remove it to a considerable distance. The surveyor will not find it easy to estimate accurately the consequences of such a contingency.

I will here mention an instance of the effect produced by the construction of a railway which has come under my own notice. The island of Sheppey was till recently only approached by water to the pier at Sheerness, and from the land side, across one ferry. The land around Sheerness, therefore, had a great value for market gardens, as it supplied the large towns of Queenborough and Sheerness. Presently came the railway direct into the island, having stations at both these towns. This, you will say, must have greatly increased the value of the land. Not so;

the tenants of the small farms complain they cannot stand the competition, and that their land is not worth the rentals they have hitherto been paying. Of course no one is surprised at a farmer complaining; in fact, it has passed into a proverb, that if he does not, then things are indeed hopeless with him, for he must be despairing. Again, in my endeavour to show not only largely, but in minutiae, the changes that may be caused, I will instance an hotel at a very pretty place in the island. It used to be thronged with people coming "for an outing" from the towns. But now that they have the railway they go further afield, and the result is the value of the hotel is diminished. Think, now, how wrongly you might have estimated the value of these hotel premises when the railway was first projected, had you not rightly calculated the effect which would be produced.

The effect of the laying of a line of tramway may also be much miscalculated. At first thought it might appear that its effect could not be otherwise than beneficial, and so it would be to a suburb which thereby gained an additional and convenient means of access to central parts. But the effect upon the thoroughfares along which the line passes may be very different. It was a complaint of the shop-keepers in the Old Kent Road when the tram-cars first began running along that thoroughfare (and doubtless is so still) that chance customers who formerly walked past their shops morning and evening on their way to business and back, were now carried past them in the cars, lured by the comfort and cheapness of the accommodation, and that the consequent falling-off of business was considerable.

The same remarks apply in great measure to canals, which, while their construction is no doubt in a high degree beneficial to places by their means brought into direct communication with commercial centres, and in and about which land will consequently greatly increase in value, may nevertheless exercise a detrimental influence on residential property lying near the line of water-way, a certain amount of dampness and consequent unhealthiness being almost inseparable from such vicinity.

The establishment of harbours, piers, and lines of steamers calling at the harbours and piers so established, can hardly fail to improve the value of property, enhancing as they do the commercial importance of the localities, and rendering them suitable and easy of access as watering-places.

Strange to say, the establishment of cemeteries almost invariably enhances the value of land and property in their neighbourhood. I have noticed this particularly in my own experience, and it is proved by the cases of Norwood, Woking, and Highgate.

As to the effect which markets will have on the surrounding property, I would instance the increase in rentals which the establishment of the new Wool Market in Coleman Street has occasioned, by inducing those interested in that trade to seek offices in the street or in the immediate vicinity. On the other hand, see the depressed character of the property surrounding Farringdon Market. Indeed, it will generally be found that the effect upon the neighbourhood is dependent on the success or otherwise of the Market, although I am bound to say while alluding to one of the most unsuccessful undertakings of modern times—Columbia Market—which has so signally failed to realise the benevolent intentions of its high-minded and public-spirited founder, that undoubtedly the value of property in its neighbourhood has increased. I will mention also the improvements arising in the vicinity of the Dead Meat Market, and in consequence of the extension of that building now in progress; and also that caused by the extension of Billingsgate Market.

Few points will more severely tax the prescience of the valuer than the effect on property of new streets, affecting it as they do in such an infinite variety of ways. I am afraid I can hardly estimate, though a long experience should enable me to do so, the effect of the new street now in course of development from Bloomsbury to Shoreditch.

Parenthetically, I may remark, few of my contemporaries, I believe, realised the wonderful alteration in value of property which followed the construction of Commercial Street, where, by the formation of a new street, plots of ground which formerly had no frontages at all, or only to back streets, become possessed of frontages to new and important thoroughfares, the increase in value being of course prodigious; but what I think is hardly sufficiently thought of is the depreciatory effect exercised upon property in the old streets in the neighbourhood by the formation of new channels for the traffic which formerly passed through them, and by the sudden throwing into the market of a large quantity of new shop, office, or warehouse property for sale or letting. This effect is at the present time being felt in Cheapside and neighbourhood of the new Queen Victoria Street.

Turning now to consider the widening of existing streets, an excellent illustration of the difficulties here met with is presented by one of the latest projects of that able body, the Metropolitan Board, which has so much improved London, and yet without raising a hue and cry about the waste of public money; I refer to the widening of the Harrow Road. All the surveyor's theories of value based upon knowledge of the locality as now existing, must be thrust aside. He has to deal with the future, and all his knowledge of present local value (so far as dealing with property affected by, but not actually taken for, the improvement is concerned) is wide of the mark. He has now to value on an entirely new basis. He has to pay regard to the more limited area to be occupied by buildings, to the probability of that area being required for different purposes in consequence of the alteration. And upon what data is he to go? The tables and mathematical calculations utterly fail, and a large and varied experience is the only guide.

The next item in our list is the effect on surrounding property of the action of the Metropolitan Board or other local authority in converting commons and waste spaces into public gardens. There, however, the difficulty which meets the valuer, is not, "What will be effect of the alteration?" but "to how great an extent will property be improved;" as deterioration can hardly result from this cause. Take the case of Kennington Park, formerly Kennington Common, and compare for a moment the rents obtained then with those realised now, not merely in the case of houses facing the Park, but in the surrounding localities, for I wish to impress upon you

that the effect of an improvement of this kind is not confined to property in the immediate locality, but extends around for a considerable radius, much greater, indeed, than might be supposed.

Another source of disturbance to the calculations (of even the most astute surveyors) is and must be the unexpected decision of Government or of local bodies as to the position of new public buildings. I need hardly refer to the great dispute as to the site for the new Law Courts. Upon the ultimate victory of the advocates of the Carey Street site on the one hand, or the Embankment site on the other, depended a difference of from 80 to 100 per cent. in the value of the property adjacent to the respective locations, and he was a skilful valuer, indeed, who could nicely balance the chances and effects. The Albert Hall in the West, and the new Post Office in the City, again, have affected land in their vicinity to an extent which surveyors would have been ridiculed for suggesting as possible but a short time since. Again, as to the "Brompton Boilers." Who could have foreseen that so small a beginning would lead to such great results, raising the value of property in the neighbourhood by an enormous percentage?

The influence exercised by the erection of a theatre will depend very greatly upon the character of the neighbourhood, as it is obvious that while it would hardly operate beneficially upon the value of houses in a "quiet square," a locality of a less private and select stamp might be favourably affected.

The erection of the mansion of a person of importance will very often greatly improve the value of property in its vicinity; or, if established in a country place, will even create a neighbourhood. I cannot give a better instance of this than that of Sir Morton Peto's mansion at Somerleyton.

The building of a number of houses of a superior class will improve the value of land in the neighbourhood, and also that of the already existing house property, always providing that the houses built are not too good, i.e., too large and expensive for the locality, in which case they will probably ultimately exercise a contrary effect; as after standing empty and perhaps unfinished for an indefinite time, they are let for much less than the rent which they were built to fetch, fall into the hands of tenants who cannot and do not care to keep them up properly, and end by being blots and eyesores to the neighbourhood.

The improvement or construction of a system of drainage in a neighbourhood cannot of course affect the value of property otherwise than beneficially.

And now we come to one of the most perplexing and uncertain, and yet most powerful causes of alteration in the value of property, viz.—Fashion. I have merely to call to your minds the locality which has been honoured by the name of "the Squares," to call to your memories the time when Russell and Bedford Squares were aristocratic centres, and you will all appreciate the decadence of those properties, which have now become the abode of professional men and lodging-house keepers. Of course very much more striking contrasts may be found if we go further back in years for our comparisons, and think of the days when Clare Market and the purlieus of Drury Lane were inhabited by the rank and fashion of the time. And what is more curious, even to the most careful observer of the changes of locality, than to notice the return of fashion to the neighbourhoods of Portman and Manchester Squares, through the determined fancy of one or two titled people to again occupy those localities: whereby, and from this cause alone, property in those parts has again assumed aristocratic pretensions, and higher rents have again ruled the market. Occupation by titled folks has a much greater influence on neighbourhoods than might be supposed. In spite of the democratic tendencies of the times, people still "dearly love a lord," and love still more dearly to live in the same terrace or even street or road as his lordship. Speculators as a rule are well aware of this, and I will read you an amusing paragraph I met with the other day which bears out the same view:—

"Few people except the Wandering Jew have the constitution of the nobleman who is said to have lived for many years almost rent-free by constantly moving from one new house to another. His friends thought he was suffering from some obscure disease of the brain, but the builders' agents found him a capital deoxy duck. As soon as they told a wavering client that Lord So-and-So had taken a house in such a terrace, the houses in the terrace were immediately at a premium, particularly those on each side of his lordship. In fact builders find it an excellent speculation to give a good house cheap to a tenant with a title, and are thankful even for such small mercies as a knight's widow."

Few localities have been so much affected by the influence of fashion as that which any middle-aged hearers will recognise when I speak of the "Five Fields," and which is now known as Belgravia;—those marshy fields, which I think I am right in saying were held on such terms that their owner parted with them to the celebrated Mr. Cubitt for a bottle of port wine; and which he, by building important houses thereon, developed into the property we now see; with the result that houses in the vicinity which formerly let at 32*l.* per annum, have through me been let at 250*l.*, with a premium.

And there is a commercial as well as a social fashion, as is plainly evidenced by the changes which have taken place within the memory of many of those present in the neighbourhood of St. Luke's and Southwark. I only speak from twenty-five years' experience of St. Luke's, and it then consisted of small houses held by one tenant, who sub-let apartments. Now a vast quantity of this property has been pulled down, and large warehouses have been or are being built on their sites, which command large rents. And in Southwark, also, much land which was formerly covered with small residential property is now occupied by large manufacturing and warehouse premises. Again, take the locality known by its old-fashioned name of Redriff. Houses here which were formerly occupied by sea-captains now command high rents as warehouses and wharves; and for property which was let formerly for 40*l.* a year, I have recently through the building of a river wall obtained 150*l.*

We have now run through our first table, and it remains to glance briefly at the causes which are likely to operate to the disadvantage of property, as set forth in Table II.

The varying effect of railways we have already considered, and while on the subject, have contemplated the disastrous effect of the removal of a railway station. Next on our list stands the establishment of railway works or coal depôts, and with these may also be considered, as of kindred nature, the next two items on the list—gas works and factories. Now all these can hardly fail to greatly depreciate the value of the property near which they may be placed, unless that property happens to be of a small and poor class, in which case its value may be increased owing to the demand for dwellings for the workmen employed in the adjacent establishment. The extent to which the employment of a large number of men in any one spot will affect the neighbourhood is well illustrated by the case of Deptford, Charlton, and other parts near the dockyard, where the demand for, and consequently the value of, property varies with the activity or otherwise of Government works to a remarkable degree. A more striking illustration of the damage which may be done to a good class of property by the establishment of a coal depôt can hardly be found than that at Twickenham, where the depôt is so placed as to face on the other side of the line villas which have never since let.

I may here mention a case which well illustrates this portion of our subject. A certain vicar being about to rebuild his house, to command a more extended view it was built a little nearer the summit of the hill upon whose slope it was placed, and upon which stood a windmill. I remember that to make the view more beautiful a pond was so cut in the valley as to resemble the bend of a river. All seemed perfect; but alas! for human calculation, it was found that coal could be delivered by water-carriage within one mile of the mill at such a price that it would pay to convert this windmill into a steam mill; and the idea was carried into effect. Few can imagine the change from comfort to real torture, when, with the steam-engine going night and day, sleep in the bedrooms became an "unknown quantity." A law-suit was the result, and a small money compensation. Now had you valued this house before and after the conversion of the mill, how different your valuations would have been. And even had you known before the conversion that it was likely to occur, would you have correctly estimated the extent of the damage that it would occasion?

The fact that by legislation most of the objectionable manufactures have been prohibited within populous districts shows the tendency of the public mind to desire that these should, if possible, be altogether kept away from the vicinity of residential property; and most of you, in your own experience, will have met with instances of the great detriment arising to residential property of a decent class from the proximity of a factory, though even of the most innocuous character.

Probably few sources of annoyance more seriously affect property than the proximity of gas-works. The frightful injury to a man's garden arising from this cause may perhaps deprive him of one of his principal sources of enjoyment on his daily retirement from town and mental toil.

Coming now to hospitals, I refrain from referring to the painful controversy as to Hampstead, because it is so recent and still so undecided that it hardly comes within the limits of fair discussion. But I think I may say that the excitement created, and the greatly varying statements as to effect on value of land should it be placed in the spot proposed, show most conclusively how great an influence such a consideration as this may have.

The great disputes which have arisen as to the placing of barracks at Oxford and Worcester show how serious may be the effect of such occurrences as these upon the value of property; and at Milton-next-Gravesend also is a remarkable instance of the damaging influence exercised upon what was formerly excellent property by the establishment of a kindred institution, I believe a military hospital.

Of the effect of the proximity of a prison upon the surrounding neighbourhood there is no need to speak, but when we approach schools, especially School Board schools, we tread on delicate ground. That the education of the children of the people is a paramount duty of the State has long been my opinion; but whether a School Board school is or is not a serious injury to the surrounding property I refrain from expressing an opinion. Some there are who would and do assert that the congregating of from 500 to 800 children into a play-ground, the noise from which irritates the surrounding neighbours, with the possibility that the play-ground is of too limited an area to accord with the desires of the rising generation, so that the gambols become extended to the adjacent streets and roads—is a positive advantage.

The establishment of a music hall in the neighbourhood of respectable property must manifestly tend greatly to depreciate its value, but may have a directly contrary effect upon a poor or low neighbourhood.

Brickmaking, though decidedly calculated to damage property in the vicinity of which it is carried on, is generally merely a temporary inconvenience. Should, however, the earth be of such a character or the land of such an extent that the manufacture may continue for some years, unquestionably a serious deterioration in the value of the adjacent property will result.

Coming to our next point, how often is the owner of a few only of the houses in a terrace annoyed by finding that another owner is bringing out shop fronts, having obtained the necessary consent from the Board of Works, while perhaps he himself is prevented from doing so by prohibitory covenants in his lease. It is obvious that great detriment will arise to the owner of the private houses in such a case; yet who can prevent it? Such incidents show the necessity of those lending money on the security of property which may be hampered by such prohibitions, seeing that the neighbouring property is under like restrictions, or that shops are not likely to be required.

Again, as to the effect of a small class of property. Here is an element which will surprise very many. Often has it occurred in my own experience that, contrary to my advice, a client having land on one side of a road neglects to purchase that on the opposite side at a reasonable price, but proceeds to build on his own land, what is no doubt the requirement of the neighbourhood, handsome detached or semi-detached villas, contending that if he builds that class of house the other owners must do the same. Having built his villas, and exulting in prospects of success which the rentals ob-

tained appear to fully justify, he is surprised to find one morning that the foundations are being laid on the opposite side of the road for a number of small cottages, or perhaps some stabling, and that the advice given him has been only too prophetic. As the effect upon his property if the new buildings be carried out would probably be to diminish the value some 30 per cent., the matter generally results in his purchasing the opposite land at about double the price originally asked.

The last item on our list, "Bad Building," is one to which the valuer must have regard altogether, irrespective of the dilapidations, which he will, of course, estimate separately, and which may exist as well in properly as in badly built houses. And though my younger hearers may exclaim, "This point, at all events, possesses no difficulties for us: here, at least, we are at home," let them not be too confident. Modern builders, as a rule (I refer, of course, more particularly to the speculating class), display great ingenuity in concealing their bad building, a talent, I might almost say, worthy of a better cause. Some of the non-professional papers are becoming alive to these dangers, and the following paragraph from the *Saturday Review* of March 27 is amusing and to the point:—

"When summer comes our young couples find what sort of wood has been used in their house. It is unseasoned and badly joined. If the hall door faces south the postman is soon able to put the letters through the cracks in the panels, or to slip the newspapers under or over the door, whichever he prefers. The children lose their money in the crevices of the stairs, and missing teaspoons are found in the gashes which open in the pantry slabs. There is always at least one door in a state of insubordination, and the bolts and their holes refuse to have anything to do with each other. If there are any shutters they cannot be fastened, for they do not meet, and the carpets are cut through as if with a knife, owing to the distance between the gaping boards of the floors. The cupboard doors let in the dust, and smell of return smoke because the flues are not properly plastered, and the rooms are so full of draughts round the surbase that it is impossible to do without fur footstools. The slates will soon begin to blow off, for they are probably put on with galvanised iron nails, on which the atmosphere of London tells with fatal effect; and when our young couple have paid for all the repairs which will be absolutely necessary in the first year, they will, if they survive, find that they might as well have given fifty pounds a-year more for a better house, and saved their time and temper."

Having now come to the end of my Tables I propose offering a few remarks on a cause of fluctuation, which, as it is independent of any direct human agency, and may operate indifferently either to enhance or depreciate, cannot well be classified with any of the foregoing. I refer to the changes which have taken place unaccountably in the natural passage of time. All these chances and probabilities have to be weighed by the surveyor, and I will give some illustrations of the difficulties from cases which have come under my own notice.

In 1803 the freehold of a house in Cockspur Street was sold for £50*l*. That sum is to-day about its annual rental value. Can anything show in a more startling manner the change of value in this street during the past seventy years, and yet neither the fee-value nor the present rental value are by any means exceptional. Again, keeping to the same street, a house was let forty-two years ago for 200*l*. a-year, and the lessee was considered by his friends very unwise to give so large a rental. The same house now commands three times the rent. Again, land at Chiselhurst which was purchased twenty-five years ago for 70*l*. an acre, the owner now refuses to sell for 1,000*l*. an acre. As to land in the city the rise is astonishing.

I cannot refrain (even though in doing so I must, to some extent, expose the weaknesses of my professional brethren) from pointing out the disappointment which the student will meet with if he endeavours to derive bases for his future guidance from the concurrent (?) testimony of experienced men as to the value of any given property. Suppose, for instance, he carefully watches the evidence given on any important compensation case, saying to himself, "I shall here get the opinions of the best men in the profession on the value of this property which I will note as useful property for the future." What does he find? Listen to some recent experiences of my own. I purposely avoid giving any exact description or names, for, as my object to-night is solely to point out certain difficulties which the student is sure to meet with, it cannot possibly be aided by anything personal.

The first witness called was a well-known surveyor who contended that the proper basis of calculation as regarded repairs was a percentage on the rental, and insisted that 10 per cent. was the proper and invariable allowance. Can anything be more fallacious? Does it not show the method of an auctioneer in strong contrast to that which would be adopted by a valuer who had been properly educated as an architect and surveyor? To illustrate the point, suppose a house in Cornhill or Lombard Street letting at 1,000*l*. a-year, and then take ten houses in the suburbs letting at 100*l*. a-year each. How can the same percentage apply to each of these cases? I contend that the annual outlay for repairs should be taken for a number of years, and the total amount of such outlay divided by the number of years, which will, of course, give the average annual outlay, or the true allowance to be deducted from the income, for repairs. This, of course, on a large estate becomes an important item, and therefore the necessity is all the greater for a just and sound basis of calculation. I contend in all matters, great or small, for a basis which can be fairly justified, and object *in toto* to the happy-go-lucky system which now obtains with so many, and which has in its favour only two points, viz., quickness, and that it can be readily used by those who have no special or technical knowledge.

Returning to our case, the same surveyor said the present rentals were high (I need hardly say he was for the defendants, or the "taking body"), and that they would not improve in forty-seven years; and when he was asked to recollect what the agent to the property had stated as to the increased rentals that had been obtained during the last twenty years, he replied that he did not alter his opinion, as he believed the property had now reached its maximum. He was asked whether he had noticed the ware-

houses which had recently been built in the locality, large numbers of houses being pulled down for the purpose; and whether he was aware of the high rentals which were obtained for those warehouses; he replied yes, but that did not alter his views, because he thought other property nearer the city must come into the market first. It was pointed out by counsel that some of the new warehouses that had been mentioned were some yards further from the city than the property in dispute; but the stolid reply was still that his opinion was unaltered. Pressed as to whether a certain street in the locality had not ceased to be residential (of the lowest class) and become commercial, he replied that he was not aware of it. Another witness stated that all improvements had come to an end, and that there had been no increase in the value of land (he afterwards qualified this by saying "scarcely any") for the last forty years, except in main thoroughfares. Again, in another case, a well-known surveyor stated that a steam-engine working close by would not disturb him in bed, and implied, therefore, that it need not disturb anyone else, leading to the theory that nerves are a mistake, which people have themselves to thank for cultivating or possessing.

Now, I ask, is it fair of surveyors of good standing to give such evidence as this in the witness-box merely for the purpose of aiding those for whom they are usually retained—namely, the various railways, the Metropolitan Board of Works, the School Board, and other powerful bodies who are constantly acquiring property? Is it right that they should, under such circumstances, say that they do not believe any permanent improvement has occurred, when, in their private practice, they will not let their clients' land at the old rentals? It may be said (truly or not I will not argue) that surveyors for claimants are equally unjust. At all events it is on the side of the powerful body taking the land that the leading surveyors are generally found, and it appears to me no exculpation of their proceedings if they can only say that the *lesser* men do the same. Where are we to look for probity and honour if not to those whose age and position have placed them in the foremost rank?

In conclusion Mr. FLETCHER said: I trust that you will be better pleased at my bringing before you a study of the subject, and of the principles which guide, than if I had laid before you mere schedules of prices and values of land and property. I do so because the latter are scarcely of any value from the difficulty of correct comparison, and because they are most ephemeral, while the former are good for all time.

A brief discussion followed, in which Mr. J. D. Mathews, Mr. Elkington, Mr. Lovegrove, Mr. Todd, Mr. A. Payne, and Mr. Marnock took part; and the thanks of the Association were voted to Mr. Fletcher for his valuable Paper.

BUILDING IN AUSTRALIA.

THE *Times* correspondent, in his last letter from Melbourne, says:—Several buildings are in progress which, when completed, will be great ornaments to Melbourne. An unsightly block of land at the corner of Collins Street and Queen Street, which for years has had nothing but rubbish upon it, is now covered by the new Bank of Australasia, a handsome stone structure on which about 40,000*l*. will be spent. At the other end of the street the graceful spire of the new Scots Church has risen nearly to its full height of 211 feet, and the church, which stands on one of the best sites in the city, is well worthy of it. Unfortunately, the most commanding position near Melbourne is taken up by one of our architectural failures, the new Government House, which, with its high square tower, is the most prominent object in almost any view of the city, and the first which catches the eye looking out for the shore from vessels coming up the bay. The exterior of this palatial pile of brick and cement is ineffective in every aspect. The interior is well arranged, with suites of handsome rooms, numerous enough and large enough for the accommodation of all the Australian Governors. The proper maintenance of the house would eat up all the Governor's salary, unless some provision were made for taking the ball-room and other public rooms off his hands, and this is likely to be done. The foundations of new Law Courts have been laid, and new Government offices are progressing, both creditable additions to our public buildings. A picture gallery for the national collection has just been finished, 165 feet long, 40 feet wide, and 37 feet high, standing on the public library reserve, and admirably adapted for preserving as well as exhibiting the pictures, some of which had begun to suffer from the heat and suddenly changing temperature of the old gallery. A project of the Minister of Lands for selling a portion of the Albert Park has called forth considerable opposition.

The Sydney correspondent says that the city improvements, due both to public and to private enterprise, are going on at a great rate. Imposing blocks of public offices and warehouses are rising in the principal thoroughfares, and even in those which are remote from the ways of men. Mr. Vickery has just completed a long line of offices in Pitt Street, which will take rank with anything of the same kind in London. They convey the impression, which is so valuable in a young colony, of being built to endure, whereas the buildings commonly erected are as for temporary service. In Bridge Street there are some fine buildings; a pile of public offices is here noticeable, with the face to Macquarie Street, Bridge Street, and Philip Street. The length of the building in Bridge Street is 227 feet, and it will have a frontage in Macquarie Street of 115 feet. The latter portion of the building is intended for the Colonial Secretaries' Department, and the Philip Street side for the Department of Works. The whole of the building is designed by Mr. Barnett, and is appropriate and solid. New stores are being erected for Bradley's, auctioneers, on a very large scale. These run through from O'Connell Street to Spring Street. In the neighbourhood of M'Arthur's handsome and capacious stores several new and important-looking buildings are erected, and recently several plots of land in York Street which have come into the market have been purchased by capitalists who consider that there is a demand for handsome shops and stores.

THE NEW OPERA HOUSE.

THE promoters of the scheme for the erection of the new Opera House on the Thames Embankment having provisionally selected (out of a number sent in competition) the designs of two architects—Mr. C. J. Phipps, F.S.A., and Mr. F. H. Fowler—as being the best, have now agreed to accept the plans of Mr. Fowler.

On Wednesday Mr. Webster, who has undertaken the contract, entered upon the plot which adjoins the St. Stephen's Club, and the exact site upon which the structure will be erected was staked out. The land which Mr. Mapleson has secured has a frontage to the Embankment of 200 feet, and extends 300 feet in depth to the northern boundary at Cannon Row. The site for the building and approaches thus covers a ground area of 60,000 superficial feet, or nearly an acre and a half in extent. There will be a space in front of the principal elevation to the Embankment of about 30 feet in depth, which will not only have the effect of displaying the *façade* to advantage, but will also serve as an approach and carriage drive. In addition to the main Embankment frontage there will also be two other striking elevations—one on the south-west side and the other on the north-east side—with a street and carriage way, extending from the Embankment to Cannon Row, upwards of 80 feet in width. The carriage drive on the south-west side will open out direct communication with the Embankment from Parliament Street, along the street facing Whitehall Club and intersecting Cannon Row, where it is understood will be the stage entrance. Preliminary to laying in the foundations the whole of the ground from the line of the Embankment frontage to a short distance from the rear of the intended building at Cannon Row, and in width about 140 feet, is to be excavated to a considerable depth from the Embankment level in order to form a spacious basement; and this portion of the work was begun on Thursday. A numerous body of workmen are employed by the contractor in the excavations now in progress; and it is estimated that 20,000 cubic feet of earthwork will have to be removed before the work of putting in the foundations can be commenced. The basement will have a concrete floor several feet in thickness. The construction of the foundations will be carried on with the greatest activity, so as to admit of the superstructure being commenced as early as possible; and it is expected that the building will be completed and ready for opening by the commencement of the opera season next year.

THE METROPOLITAN BOARD OF WORKS.

AT the meeting of the Metropolitan Board of Works on the 14th inst. a long report was presented from the Finance Committee of the proceedings of the Board for the year ended December 31, 1874, of which the following is a summary. As regards the main drainage, the only portions which have not been completed and in operation several years are the permanent Western Pumping Station, now in course of erection near the Chelsea Suspension Bridge; the part of the Northern Low Level Sewer extending thence westward to the temporary Pumping Station at Cremorne, a length of about 8,230 feet, and the interception of the sewage from small areas in the city and Pimlico from a part of Wapping and North Woolwich. Of the length, 8,230 feet of the western portion of the Low Level Sewer, 4,430 feet has been constructed in connection with the Chelsea Embankment, the work for which the completion of the line of sewer had been necessarily delayed; from the eastern end of the Embankment to the Western Pumping Station, a length of 1,400 feet, the sewer is now being constructed under the contract for the buildings, &c., of that station, and from the western end of the Embankment to the temporary station at Cremorne, the sewer, 2,400 feet in length, is also in course of construction. A length of 1,562 feet of the latter has been completed. The plans for the remaining intercepting works in the city are being prepared, and the works at Wapping are in progress. The erection of the buildings and machinery for the Western Pumping Station at Pimlico, on the north bank of the river near the Chelsea Suspension Bridge, is now far advanced, work to the amount of 134,500*l.* having been done out of a total contract price of 183,739*l.* The pumping power here will be sufficient to lift the sewage and part of the rainfall contributed by the district, together estimated at 38,000 gallons per minute, to a height of 18 feet into the Low Level Sewer, which runs from this point to the Pumping Station at Abbey Mills, West Ham. At the Crossness Pumping Station the average quantity of water required for daily use is 866,500 gallons, and a well to the depth of 1,020 feet has been sunk at a cost of 5,252*l.* 1*s.*, but the supply from the Water Company would have cost 10,000*l.* per annum.

Since 1856—the year in which the Metropolitan Local Management Act came into operation—plans for the construction of nearly 800 miles of local sewers have been submitted to the Board for approval. The length of sewers actually constructed is somewhat less than this, being probably under 700 miles. The difference is to be accounted for partly by the fact that sometimes the sewers are not made until long after the sanction of the Board to them has been obtained, and partly that in some cases, after a scheme of sewerage for a particular locality proposed to be built or has been approved, the building scheme has been abandoned, and perhaps at a subsequent time a new plan adopted for laying out the ground for building, with a new scheme of drainage.

The Chelsea Embankment, which extends from the western end of the gardens of Chelsea Hospital to old Battersea Bridge—a length of 4,129 feet, or rather more than three-quarters of a mile—was completed and the roadway opened for public traffic on May 9, 1874, by their Royal Highnesses the Duke and Duchess of Edinburgh. The contract price of the whole of the work, including the formation of the sewer, &c., was 138,950*l.* The amount paid for property acquired for the purpose of the Embankment was 166,000*l.* The Embankment roadway at Chelsea completes a thoroughfare by the river side, extending from Blackfriars Bridge to Battersea Bridge, $\frac{1}{4}$ miles in length.

In July last the Board completed the purchase from the Duke of Northumberland of his Grace's house and grounds at Charing Cross, in accordance with the agreement entered into in the preceding year and con-

firmed by Parliament, the sum of 500,000*l.* being paid for the property. The materials were sold in two lots in September and November, and realised 6,378*l.* 2*s.* 6*d.* The demolition of the building is now going on, and the ground will probably be cleared by the middle of next year. The Board is proceeding with the acquisition of the other property needed for the improvement, and has settled claims to the amount of 87,578*l.*

In respect of Queen Victoria Street, extending from the Mansion House to Blackfriars Bridge, some further plots of land in the street have been let for building during the past year, and the ground rents received by the Board now amount to 39,221*l.* 4*s.* 6*d.* The amount already realised by the sale of ground is 232,998*l.* Old Street to New Oxford Street Improvement is another of the improvements authorised by the Act of 1872. Old Street is to be widened on the north side, and Wilderness Row on the south side; a new road will be formed from St. John Street, Clerkenwell, to Farringdon Road, near the Clerkenwell Sessions House; thence there will be a new road to Liquorpond Street, the latter street, together with Christopher Street, King's Road, and Theobald's Road, being widened and a communication formed from Gloucester Street and Kingsgate Street to Vernon Place, New Oxford Street. The new line of street is to be carried over the Metropolitan Railway at Farringdon Road, near the Clerkenwell Sessions House, by a wrought-iron girder bridge, 125 feet long and 60 feet wide. An order has been given for the construction of the bridge at a cost of 18,250*l.* The Board are proceeding with the purchase of the property, and has made settlements to the extent of 370,533*l.*

The Board were convinced that by securing open spaces within the metropolis it was rendering a service to the inhabitants in regard to moral and physical well-being, although considerable expenditure was involved in the purchase and maintenance of these open spaces. The parks, commons, and open spaces are as follows:—Finbury Park, 115 acres; Southwark Park, 63; Victoria, Albert, and Chelsea Embankments and Leicester Square Gardens, 14; Blackheath, 267; Hampstead Heath, 240; Shepherd's Bush Common, 8; London Fields, 27; Hackney Downs, 50; Walls Street Common, 30; North Mill Field, 29; South Mill Field, 28; Clapton Common, 94; Stoke Newington Common, $\frac{1}{2}$; waste land at Dalston Lane and Grove Street, Hackney, 1; Tooting Beck Common, 144—in all 1,030 $\frac{1}{2}$ acres.

THE GALICHON COLLECTION.

THE *Pall Mall Gazette* says that some very important specimens from the Galichon collection of prints and drawings have been secured for the department of the British Museum. The sale, which occupied the whole of last week, gave rise to the keenest competition, and the prices paid were in many cases extraordinary. Under these circumstances, it is matter for congratulation that so much has been obtained, and that by the energy of the authorities, cordially supported by the liberality of the Government, the opportunity of filling some of the vacant places in our splendid collection has not been missed. In the department of engraving the most notable purchases have been some of the rarer works by the early Italian masters. In particular may be mentioned a very rare and beautiful composition of the Virgin with saints, by Giovanni Antonio de Brescia. This piece finds a place in Passavant's catalogue, but it was unknown to Bartsch. As a composition it possesses high pictorial beauty, and in the method of its execution it illustrates the most interesting stage of the artist's career. Giovanni de Brescia was at first a close student of the style of Mantegna; but he adopted in later life the softer and more elegant manner of Marc Antonio. The print just purchased for the Museum, so far as workmanship is concerned, is true to the earlier influence, but it possesses a tenderness and delicacy of sentiment which clearly separates the composition from the artist's general imitations of Mantegna. The face of the Virgin and the youthful form of St. Michael, who offers a pomegranate to the infant Christ, may be instanced as showing the exceptional refinement and grace of the work. Another acquisition of importance is the print of St. Anthony by Nicoletto da Modena, also a student of Mantegna, and afterwards of the style of Dürer. The influence of the latter may generally be observed in the impressive treatment of light and shade and in the minute fidelity of the landscape. In the engraving now under notice—a work not known either to Bartsch or Passavant—the landscape has much power and beauty. Among other works of engraving secured for the national collection are a Saint Jerome ascribed to Benedetto Montagna, a magnificent impression of Marc Antonio's plate of the Martyrdom of Santa Felice, after Raphael, and Martin Schongauer's noble composition of St. Michael.

Among the drawings by old masters there is a first study by Leonardo da Vinci for his celebrated composition of the Virgin and St. Anne. The picture is in the Louvre, but the cartoon mentioned by Vasari, and which carries the more authentic stamp of Leonardo's own handiwork, belongs to the Royal Academy. It is for this reason highly interesting that we should also possess the first studies made for the work by the painter. The drawing from the Galichon collection consists of a sketch of the composition as a whole, surrounded by sketches for the figure of the infant Christ. On the same paper are some lines of writing and a design for a hydraulic machine, and on the other side of the paper is a study of the head of an old man of a type often reproduced in Leonardo's drawings. Considering how little of Leonardo's work we have in this country, it is no small satisfaction to possess a drawing which thus completes the pedigree of the precious cartoon belonging to the Academy. Two sheets of studies by Andrea del Verrochio, the master of Leonardo, and three designs for the Coronation of the Virgin, by Cosimo Rosselli, are also important additions to the series of Italian drawings. Verrochio is an artist not very strongly represented in our collection at the present time, and these two examples are of undoubted authenticity. Among other drawings purchased for the Museum are a Holy Family by Fra Bartolomeo, some studies of figures in costume by Sandro Boticeili, a very fine head of life size by Lorenzo di Credi, executed in silver-point and heightened with white, an important drawing by Battista Franco, and another by Benedetto Montagna. Altogether the national collection will be considerably strengthened by the addition of this series of drawings and prints.

ETCHINGS AND ENGRAVINGS.

MESSRS SOTHEY, WILKINSON & HODGE sold, on Tuesday and Wednesday, the collection of etchings and engravings formed by the late Mr. George Vaughan. It included specimens of the works of the most famous ancient and modern masters, notably Albert Dürer, Marc Antonio, and Rembrandt. The following were the principal lots:—Albert Dürer—"Adam and Eve," 49*l.* 10*s.*; "The Nativity," 25*l.*; "The Passion," 26*l.* 10*s.*; "The Crucifixion" (circular plate), 31*l.* 10*s.*; "The Prodigal Son," 61*l.*; "The Virgin," with crown of stars and sceptre, 22*l.* 10*s.*; "The Virgin," with a pear, 21*l.* 10*s.*; "The Virgin and Child," with the monkey, 30*l.* 10*s.*; "Saint Hubert," 70*l.* 10*s.*; "St. Jerome in his cell," 25*l.* 10*s.*; "Melancholy," 34*l.* 10*s.*; "The Great Fortune," 21*l.* 10*s.*; "The Lady and Gentleman walking," 45*l.* 10*s.*; "The Knight and Death," 61*l.*; "The Coat of Arms with Death's Head," 50*l.*; "Antwerp Cathedral," by Hollar, 17*l.* 5*s.*; "David Playing before Saul," 25*l.* 10*s.*; "St. John," after Domenichino, by Muller, 17*l.*

Among the works of Marc Antonio and his school were—"The Massacre of the Innocents," 74*l.* 10*s.*; "Christ in the House of Simon the Pharisee," 58*l.*; "The Descent from the Cross," 64*l.*; "St. Paul Preaching at Athens," 77*l.*; "The Virgin ascending the steps of the Temple," 20*l.* 15*s.*; "La Vierge au Palmier," 42*l.*; "La Vierge au Berceau," 60*l.*; "Christ and the Apostles," 20*l.* 10*s.*; "The Martyrdom of St. Lawrence" (the rare state with two forks, but injured), 48*l.*; "St. Cecilia," 65*l.*; "The Martyrdom of St. Felicité," 115*l.*; "Dido," 28*l.*; "Alexander and the Works of Homer," 135*l.*; "The Triumph of Titus," 64*l.*; "Mount Parnassus," 37*l.*; "The Dancing Faun and two Women" (damaged) 37*l.* 10*s.*; "Jupiter and Cupid," 23*l.*; "Mercury," 47*l.* 10*s.*; "Cupid and the Graces," 20*l.* 10*s.*; "L'Homme et la Femme aux Boules," 63*l.*; "The Virtues," 28*l.*; "The Women with Signs of the Zodiac," 35*l.*; "The Cassiolette," 27*l.* 10*s.*

"St. James Fighting with the Saracens," by M. Schoen, 97*l.*; "A Bishop," 16*l.*; "The Madonna della Scala," by Toschi, 19*l.* 19*s.*; "The Skaters," after Ostade, by Vesscher, 17*l.*; "Les Musiciens Ambulants," by Wille, 17*l.* 10*s.*; "The Tournament," by M. Zagel, 25*l.* 10*s.*

The following are by Rembrandt:—"Young Haaring," first state, on thick Japan paper, 330*l.*; "Rembrandt Leaning on a Stone Sill," 31*l.* 10*s.*; "Rembrandt Drawing," seventh state, 26*l.* 10*s.*; "Angel Appearing to the Shepherds," fourth state, 32*l.*; "The Flight into Egypt," second state, 30*l.* 10*s.*; "Christ Preaching," 30*l.*; "Christ Healing the Sick," 81*l.*; "Our Lord before Pilate," second state, 16*l.*; "The Crucifixion," first state, 59*l.* 10*s.*; "The Ecce Homo," first state, 87*l.*; "The Descent from the Cross," second state, 73*l.*; "St. Jerome," second state, 50*l.* 10*s.*; "St. Francis," 60*l.*; "Jason and Creusa," 40*l.* 10*s.*; "A Woman Holding an Arrow," 30*l.*; "Three Cottages," third state, 42*l.*; "A Landscape with Sheep," second state, 51*l.*; "Renier Anslou," second state, 33*l.*; "John Lutina," first state, 115*l.*; "John Asselyn," 70*l.*; "Ephraim Bonus," 90*l.*; "Utenbogardus," third state, 30*l.*; "J. C. Sylvius," 90*l.* 10*s.*; "The Gold Weigher," second state, 25*l.* 10*s.*; "The Great Jewish Bride," fourth state, 32*l.* 10*s.*; "The Great Cappercol," with verses in his handwriting, 110*l.* Total, 4,888*l.* 12*s.*

INDIAN ARCHÆOLOGY.

ACCORDING to the *Pall Mall Gazette*, among other duties undertaken by the Indian Government is antiquarian research into the more important architectural remains of the empire. The Society of Arts has the credit of having originated the plan of systematically examining these records of the past, which was taken up as a serious task some years ago for various parts of the Indian peninsula. The Bengal Government had the care of this architectural survey as regarded the temples of Orissa, and the first results are now published in a folio volume prepared by Baboo Rajendralala Mitra, an able native archaeologist. The work is said to cover an enormous area of research, and contains, among other sections of great value, an elaborate comparison of early Indian with Egyptian and Greek art, showing that in correctness of drawing it far surpassed the former, and was beyond any of the other ancient schools in much of the execution of details. Perspective was not fully understood by those who sculptured the groups on the Orissan temples, but attempts were made to use it by reducing the proportions of objects distant from the front; and such absurdities as the Egyptian mode of representing the importance of a king by making him larger than his attendants nowhere appear. Drapery, again, which is only outlined in Egyptian and early Greek sculpture, as in the Assyrian, is delineated with perfect success by the unknown artists of Orissa. They attended also specially to those contrasts of light and shade which were unknown to their distant rivals, projections and depressions being used in the most skilful way—such as an intricate system of carving on the mouldings of columns, for instance, to throw the light into a variety of shades. The Baboo's work treats the whole subject exhaustively, his five chapters dealing successively with the history of Indian architecture, its general principles, its details, the social condition of the builders of the temples, and their successive forms of religious worship; and his execution of each of these portions is much praised.

THE STATUE OF LORD MAYO.

ALARGE party assembled at the new Bronze Statue Foundry of Messrs. Cox & Sons, on the river bank at Thames Ditton, on the 14th inst., to watch the interesting operation of casting the larger portion of the bronze equestrian statue of the late Lord Mayo from a model by Mr. Thornycroft, which, when completed, will stand 14 feet high.

The figure of Lord Mayo is already cast, and may be pronounced an excellent and spirited likeness; the head, tail, and legs of the horse are also cast, but the body of the animal, which required the melting and mingling of two tons of copper, tin, and gun-metal, is what was done on Friday.

The statue will be sent to Calcutta in time to be unveiled by H.R.H. the Prince of Wales on his visit to India in the autumn, previous to which it will be exhibited for a few weeks in London.

THE SOUTH KENSINGTON MUSEUM.

A VERY interesting addition has been lately made to the collections of South Kensington, being a figure, somewhat less than nature, of a sea-eagle perched on a rock; the material iron, the workmanship Japanese. The attitude of the bird is a marvel of energy; it is spreading its wings previous to leaving the crag, and every feather in the body, the ruffled neck, the curving claws, the glancing eye (for even this effect is given, though of course without the aid of colour) is full of combative life. The object is well worth study, not merely in an artistic, but also in a metallurgical point of view, for we much doubt whether our men of the midland districts could put together the numerous *laminae* of iron that go to make up the figure into so light and workmanlike a whole. The date of the work is the sixteenth century, and we gather from an inscription taken from the "Japanese Cyclopædia" that the artist is highly esteemed by his own countrymen. In the same case we observe several Japanese bronzes of spirited character, which, like the eagle, have formed part of the valuable collection of Mr. Mitford.

Among the decorative works in majolica, mosaics, sgraffito, stained glass, &c., which were originated in the South Kensington Museum some years ago, when the late Marquis of Salisbury and Lord Granville were Lords President, but which have lately been going on slowly or been actually suspended, is a ceiling made of thin plates of iron and enamelled. This ceiling has just been put up in its place in the central refreshment room, and is probably the first experiment of the kind which has been attempted. The decorations of this room were designed to resist all dirt and impurities incident to a public room where food is eaten by an average of 10,000 persons a week. The walls and columns are of majolica, the floor is paved, and the ceilings are of iron enamelled. The whole gives an impression of perfect cleanliness, and every part might be washed down by a fire-engine weekly, if necessary. The iron ceiling was designed and painted by Mr. James Gamble, a successor and pupil of the late Godfrey Sykes, who practically founded the school at the Museum. The artistic work of the ceiling was done at the South Kensington Museum, until the action of the decorative studio was virtually suspended. The manufactured part of this ceiling is from the Enamelled Iron Company, Birmingham, the white enamelled plates being sent from the factory, and painted with arabesques by the artist. The work is effective and the experiment successful. In cases where it is necessary to keep a ceiling clean and to wash it frequently, this material promises to answer perfectly, and the artistic work will last for centuries, as the design is burnt into the enamel. The decoration of this room as well as the adjacent room, decorated by female students after Mr. Poynter's designs, is not yet fully finished.

THE OBERAMMERGAU MEMORIAL.

AN occasional correspondent of the *Standard* sends an account of a colossal group of the Crucifixion about forty feet in height, which is to be erected above the village of Oberammergau, at the expense of the King of Bavaria, as a memorial of the Passion Play.

The whole work, which is conceived in a simple but very impressive and truly religious style, does great honour to the artist, Professor Halbig, one of the most eminent sculptors in Germany. After two years' patient labour it is almost complete. The question now is to know how the enormous mass is to be removed from the artist's studio, in Munich, and to be safely brought to the heights above the village. Being of marble, the group is not only of enormous weight, but cannot be divided into several pieces and put together again on the spot, as might be the case with a bronze figure, and as was, in fact, done with the colossal statue of Bavaria, erected thirty years ago, and now standing on the Theresienwiese, near Munich, and which, although measuring 85 feet from base to summit, was hoisted into its place without great difficulty. For conveyance, it must be laid in a half erect position, and every precaution will be taken to protect it against the risk of being broken or damaged during the journey. For this purpose it must be packed as tightly as possible into a huge chest, which now stands in the courtyard of the master's workshop, and which, being made of the thickest beams, resembles more one of the well-known Alpine blockhouses than a chest or trunk. The enormous carriage which is to receive a burden falling little short of 25,000 kilos, or 490 cwts., has been also made expressly for the occasion. Ordinary horse-power seems to be absolutely unfit for this extraordinary task; it has been calculated that twenty or even thirty of the strongest horses would be insufficient for it, especially as the roads which lead to Oberammergau from the capital of Bavaria, besides the natural difficulties of the soil, are in anything but good order.

In the face of all these difficulties, the artist has set his mind to finish the work at the appointed time, and he intends to use a powerful street locomotive, from Messrs. Maffei's machine factory, and at present used almost daily to drag a full-sized railway engine to the central station upon an ordinary road, and through the middle of the town. The same engine had already conveyed the raw block of stone to the artist's studio; this block, hewn from the quarries of Kelheim, had been conveyed, first to Ratisbon, upon the Danube, and thence to Munich, by rail.

There is no doubt that the engine is sufficiently strong to move the group, but will it be possible to mount with it the steep inclines and to turn the sharp angles which abound on the road to Oberammergau? Will it be at all feasible to make it run, most heavily laden, on the rough surface of a South Bavarian mountain road? These questions, upon which depends the success of the enterprise, cannot be answered by the owners of the engine, who are, however, willing to lend it for the experiment. On what day the street locomotive will start from the artist's studio, taking with it the Royal gift to the Bavarian Highlanders, cannot be said with certainty, as this depends on the weather, which previously must have been dry for at least a week. However, there is little time to lose, as the King's birthday, which occurs in August, is fixed for the solemn inauguration; besides, the erection of the colossal group on the appointed place will also take no small amount of time and trouble, and the uncertain chances of success must be equally accounted for.



Ventilation.

SIR,—I have read the report of the experiment made on May 15 at St. George's Hospital, of Mr. Tobin's system of ventilation; and as it is a subject of national importance, and one to which I have devoted much attention, you will perhaps permit me to submit to you the result of my experience. There is no novelty in the assumed invention, as I can testify, as conclusively shown in the *British Medical Journal* April 24, and *English Mechanic* May 14. Vertical air shafts have been in use for many years, and abandoned in favour of more sightly and effective appliances. The weakness of Mr. Tobin's system is palpable, in the fact that only fresh air can be admitted, no provision being made to carry off the vitiated air; in public buildings, theatres, hotels and factories this is essentially necessary. If the experiment had been made in winter, the apartment would have been unbearable, as no fireplace could be constructed that would equally diffuse the heat, and the consumption of fuel would have been excessive. The introduction of cold air four feet from the floor is opposed to the science of ventilation, as it is partially forced upwards and being (the heavier body) descends, drawing down the foul air expelled from the lungs and exhalations from the body to be breathed over again. The most efficient means I have yet met with are those adapted by Messrs. Robt. Boyle & Son, of Mansion House Buildings, which consist of a ventilator with a flat front; the air impinging on the front plate is deflected vertically up the wall (no draught is felt); they are fixed, when practicable, about one foot from the floor level; they have the obvious advantages over the vertical tubes employed by Mr. Tobin, as the air is introduced at a lower strata; they economise space, and the quantity of air required can be regulated, or they can be closed. In cold weather fresh air can be introduced by a pipe underneath the fireplace, securing the warming of it to the highest degree; before reaching the inmates the impure air is carried off by a "Patent Self Acting Air Pump Ventilator," that extracts the vitiated air most effectually, and is entirely free from any down draught.

A careful calculation is necessary to insure good ventilation by ascertaining the cubic feet in a room or building, and computing the average number of occupants, the quantity of air consumed by each, and what is required to support the products of combustion where fire and gas are used. The inlets of fresh air should be adequate in size to supply the consumption, the outlets for carrying off the impure air should also be calculated in their capacity to draw off the quantity generated continuously, as if too large in winter they would extract some of the warmer fresh air as well.

I would suggest, to test any system of ventilation thoroughly, the following experiments should be made under scientific supervision.

1. How frequently is the air renewed?
2. What is the temperature of the external air, and how does it compare with that existing in various parts of the room?
3. What is the quantity of air carried off per minute as tested by "Lownes's Anemometer?"
4. What is the quantity of carbonic acid gas existing in the air of the room when occupied by a large number of persons?

If such experiments were made the vexed question of ventilation would be satisfactorily decided.

Your obedient servant,

ROBT. H. GRIFFIN.

21, Guildford Street, Russell Square, W.C., May, 1875.

SIR,—A great deal having been written in the *Times* relative to the introduction of cold air into rooms from the exterior by means of upright or vertical shafts or pipes, and a challenge having been given that no one ever passed warm air generated by a grate vertically into a room previous to the early part of this year, we most respectfully inform those not yet in possession of the fact that we have done so in many places previous to the time mentioned in connection with our patent Manchester grates, school grates, and stoves. And anyone interested, by applying to us, may be shown them in use. Trusting that for the sake of setting this contested subject right before the world you will kindly insert this in your next valuable paper,

Your obedient servants,

SHILLITO & SHORLAND.

Manchester, May 19, 1875.

General

The Conversazione of the Institution of Civil Engineers will be held on Tuesday next in the Galleries of the India Museum, South Kensington.

A Paper "On Ancient and Modern Mural Decoration" will be read at the Artisans' Institute, by Mr. Thomas Whitburn, on Friday next, the 28th inst.

Mr. G. W. Stephenson, the town surveyor, of Cambridge, has reported to the urban authority that the system of flushing adopted in the borough was not sufficient to keep the sewers in a free condition, those which he had examined being three-fourths silted up by solid matter.

M. Viollet-le-Duc, in his capacity of municipal councillor of Paris, has just reported against a grant of 13,000 francs being made in order to restore the tomb of Abelard and Heloise. The ground for this report is that the statues which ornament the tomb are fictitious, and M. Viollet-le-Duc even hints that the remains of the lovers do not rest in the mausoleum over which so many tears have been shed.

Mr. S. Morley and Mr. Kennington Mills were on Saturday, at the Memorial Hall, Farringdon Street, presented with portraits of themselves, painted by Mr. H. T. Wells, R.A.

The Collection of Drawings by the old masters formed during the last half century at home and abroad by the late William Mayor will be exhibited for sale this season by Messrs. Hogarth, of Mount Street, Grosvenor Square. There are upwards of a thousand examples by the most eminent artists of the Continental schools to the close of the eighteenth century.

The Director-General of the Centennial Exhibition, Philadelphia, has received a telegram from Mr. P. Cunliffe Owen, C.B., the head of the British Commission, asking that a large increase of space be assigned to Great Britain in the buildings of the Exposition. Mr. Owen says Great Britain will want 84,000 square feet, instead of the 47,000 square feet assigned.

Mr. Evans, F.R.S., of the British Museum, has lectured at the Royal Institution on 'The Coinage of the Ancient Britons,' and showed the connection between the types of Gallic and Southern British Coins and those of Macedon, which seem to have been copied first by the Gauls, and then by the Britons. The chariot with two horses, on a coin of Philip, was modified into a chariot drawn by one horse with eight legs; and a head with a crown and hair arranged in curls became nothing but the crown and wig, the face being omitted.

Mr. J. F. Bateman, C.E., has reported to the Liverpool Corporation on the proposed new water-supply to Liverpool. He estimates that the Bleasdale and Wyredale schemes would produce about twenty-four million gallons a day, and cost 2,716,047*l.*, while it would cost 2,420,703*l.* to bring a million gallons a day from Lake Ullswater, this supply to be obtained in conjunction with Manchester. Mr. Bateman is in favour of the Ullswater scheme, and he objects to a proposal for opening twenty more pumping-stations in the Liverpool district, as they would cost 1,800,000*l.* for water which would be hard and in some places impure.

Mr. Weale has discovered that the picture of the Last Judgment in the Cathedral at Bruges, ascribed to Hans Hemling, is the work of Pieter Cornelis.

A Fete will be held at the Crystal Palace on June 16 in aid of the Railway Benevolent Institution, which is likely to be unusually attractive. An interesting collection of models, inventions, scientific appliances, and portraits will be exhibited to mark the progress of our great railway systems from the earliest period. Space for the exhibition of models and designs of stations and railway buildings must be applied for at once to the General Manager of the Crystal Palace Company.

A Stained Glass Window has been placed in St. Giles's Cathedral, Edinburgh, in memory of Robert Stevenson, the engineer of the Bell Rock Lighthouse. This forms the third of the series of stained glass windows in the choir. The whole is carried out under the direction of Mr. R. Herdman, R.S.A., by Messrs. Ballantine & Son.

A Portrait of the late Mr. John Robinson M'Clellan, M.P., who occupied the presidential chair of the Institution of Civil Engineers in the years 1865 and 1866, has been added to the collection of portraits of past presidents, members, and distinguished members now being formed. The painting is the work of Mr. Charles Landseer, R.A., and was executed for Mr. Frank M'Clellan, M.Inst.C.E.

The Ironmongers' Company have expressed a wish that should Temple Bar and the Water Gate at the end of Buckingham Street, Strand, be removed, that the Corporation of London and the Metropolitan Board of Works would re-erect them on land belonging to those bodies, to be preserved as a memorial of ancient times.

The Public Works Loan Commissioners have sanctioned a loan of 60,000*l.* to the Fraserburgh Harbour Board for the extension of the Balacava breakwater.

The Librarian at Lambeth Palace proposes to form by purchase and donation as complete a collection as possible of works on Kentish literature, antiquities, and topography. Any contributions of spare volumes, pamphlets, or other memoranda will be of much service.

The Corporation of Dublin have adopted a resolution calling upon the Port and Docks Board to furnish plans for rebuilding Carlisle bridge upon its present foundations, making its thoroughfare as wide as Sackville Street.

A Public Museum is likely to be established in Carlisle, the nucleus being a collection of curiosities, the gift of Mr. George Head Head, and a collection of Roman and other antiquities already belonging to the City.

The Choir of Rochester Cathedral, which has been undergoing restoration for the past two years, under the direction of Sir G. G. Scott, will be re-opened on June 11.

The Birmingham Town Council have approved of a scheme for the extension of the Art Gallery and Free Library at a cost of 8,276*l.*

The Master Builders of Worcester have advanced the wages of carpenters and joiners one halfpenny per hour, from 6*d.* to 7*d.*

An Oriental Museum has been inaugurated in Vienna by the Archduke Charles Louis, brother of the Emperor. The Museum possesses various and interesting collections of industry and art exclusively belonging to Oriental countries, for which it is indebted to the generosity of the Asiatic Governments represented at the Vienna Exhibition of 1873.

A Magnificent Collection of old and modern Worcester china will be on show on Monday next, at the new premises of James Green & Nephew, 107 Queen Victoria Street, E.C. Some of the specimens are over 150 years old, and the most beautiful modern productions will be placed side by side with the choicest old Worcester, thus giving the public an opportunity of judging for themselves as to whether this branch of art has improved or retrograded. Anyone will be at liberty to visit the show rooms, which will remain open two or three weeks.

The Architect.

THE ARBITRATION OF AN ARCHITECT BETWEEN CLIENT AND BUILDER.



OUR Courts of Law have recently been engaged in the consideration of certain cases which appear to raise important questions as to the position to be assumed by architects in acting, as they are very much in the habit of saying, "judicially" between their clients and their contractors.

The common notion of an architect's function in this respect may be thus described. The builder commits himself without objection to his authority and direction, regarding him as an expert surveyor with whom he will find no difficulty in agreeing upon an intelligent

and fair interpretation of the contract which has been made between himself and the employer, who is a stranger to the business in hand; and the particular reason why it is this architect and no other who is authorised to exercise such control—and that somebody must do so is unquestionable—is because he is the author of the design which is the subject of the contract, and therefore the one person who beyond all others thoroughly understands its true intent and meaning, that is to say, his own honest purpose in preparing the plans and specification of the works. The employer, on the other hand, regards him in what is precisely the same light, and commits to him the administration of the transaction and the control of the purse strings with the same confidence.

There is, however, this difference between the views of the two contracting parties; the builder reserves to himself all his rights to look after his own interest personally, whilst the employer delegates his authority to the architect, we may say, absolutely. This corresponds with the circumstance that it is the employer who pays the architect for his services; out of which comes the well-known principle of professional practice that the architect shall hold himself entirely free for the time from any personal transactions with the builder on other ground.

But the view which the law takes of the architect's position becomes on this account considerably narrowed. He is the agent of his client, liable in purse to him for any neglect of duty, and bound to regard the builder with all the reserve and indeed suspicion which accords with such a doctrine. This view is encouraged rather than otherwise by the reminder that the builder can so well take his own part.

What, then, shall the law say to the common notion of the architect being an impartial judge between the parties to the contract whenever it may happen that they differ in its interpretation? Or, let us rather say, what impression will a lawyer take up of a case in which the architect claims to be sole arbitrator between the builder and—not the employer, but, as the employer's agent—himself?

Here we certainly have two very different readings of the architect's judicial character. On the one hand he is cheerfully accepted by both the contracting parties as the best interpreter of their contract; on the other he is appointed to be strictly the agent of one of those parties exclusively, part of whose duty it is to enforce as an adjudicator whatever interpretation of the contract may appear to him as an *ex parte* agent to be due to his client. And if it should happen that the client chooses to become dictatorial—by no means an unlikely or even an unusual occurrence—then what is to be said of the judicial character of the architect, who is perhaps sternly reminded of the conditions of his agency, if not of the penalty of default?

The first point of doubt that naturally arises in the legal mind is whether the architect can in any way whatever be constituted a referee upon differences which have as yet not occurred. The simplest idea of an arbitrator's function is that he is appointed by the mutual choice of two parties to settle a certain ascertained question between them. He must do this within the strict limits of the dispute, and must decide no more than is agreed to be by him decided, and no less. But when the very common custom of referring "all matters in difference" comes into view, then it would certainly seem as if it were intended to include future questions as well as past. For it is obvious that no reference of all matters in difference would, in theory at least, be necessary, except for the chance of something turning up in the course of the inquiry which might not be capable of being brought within the limits of any preconceived scheme. It seems plain, then, that such open references are in theory, as we well know they are in practice, quite worthy of being regarded as applying to a good deal that at the outset of the transaction is unforeseen, and that they

are meant to cover, and actually do cover, not merely past questions but future.

If we therefore regard the common contract clause—that the architect's explanation of the drawings and specification shall be binding on the contractor—as a reference of all matters in difference, we have only further to accept a legal fiction to the effect that the parties in so agreeing to refer have "agreed to differ," and it would seem as if the architect could reasonably enough lay claim to be accepted by both parties as an impartial judge of all points whatever which may happen to arise in the future performance of the contract. At the same time it is not to be denied that the doctrine of his being the responsible agent of one of the parties, expressly employed to watch, control, and coerce the other, is very much out of accord with that of his being in any sense of the word an impartial judge between the two.

But here again the refined logic of the law interposes another question of doubt. Granting it to be the real and admitted intention of the two parties to a building contract that one of them shall appoint a certain expert surveyor—the architect of the design—whose adjudication upon all points of possible difference the other shall accept, then what is to be done in the event of this surveyor having acquired a bias? And here the unhesitating declaration of the courts has always been that, in the abstract, the proof of a bias shall overthrow the agreement to abide by his judgment.

Most people who have had any experience of building under an architect's supervision will at once interpose the observation that such bias is essential to his retainer. The employer of the builder, who is previously the employer of the architect, employs both on the distinct understanding in his own mind that the architect will look after his interest as against the builder who can very well look after his own. Indeed in almost all cases the builder is selected subsequently on that ground which beyond all others must suggest the chance of selfish if not sharp practice on the builder's part, namely, that of the lowest tender in competition; and accordingly, although it may be argued in theory that a distinct bias against the builder need not be thus occasioned, it must certainly be acknowledged in practice that, unless the architect has the equivalent of a bias in favour of his employer, a competition builder is not at all unlikely to come off best in that encounter of wits which constitutes the carrying out of the contract in such circumstances.

But the particular bias which the lawyers have hitherto been led to regard with specific disapproval is one which in the mind of the generality of practising architects it is not easy to understand. It is, in short, that feeling of constraint which is supposed to arise out of the architect having previously committed himself in a certain way to an estimate of cost. This measure the legal mind looks upon as being an arrangement whereby the architect has pledged his responsibility that the expense of building shall not exceed a certain sum; and, inasmuch as nothing is more common than for an employer to compel his architect so to pledge himself in one way or another, there would seem to be a little ground for feeling alarm lest it should become the practice of the keener order of competition builders to repudiate their contracts, at least in so far as regards the valuation of extras by the architect or by a surveyor of his appointment, upon the plea of bias founded upon the ordinary fact that the architect is urgently called upon by his client to keep down the expense on account of an estimate given by him at the commencement of the transaction and relied upon by the employer to the end. In other words, the architect remembers but too well that he has given an estimate which cannot but be exceeded in the making up of the accounts; the employer at the same time refuses to see that the excess is not of the architect's occasioning; how then can it be expected of human nature to do otherwise than act under a certain kind of bias? And if the Courts of Law are to uphold the principle that the proof to their satisfaction of the probability of such a bias existing is to be a sufficient reason for setting aside the authority of the architect *in toto* as a certifier of the payments, and for calling in an independent surveyor to measure and value the work on his own judgment, no doubt it may seem to a good many employers that they are at the mercy of their builders, and no doubt it may appear to a good many architects to be not improbable that their clients may be advised to try conclusions with them rather than with the builders, and in fact, instead of defending an unjust demand, to adopt the simple rule—pay and sue.

The unadvisableness of an architect committing himself to an estimate of cost is a point which has been often explained. The proper person to make such an estimate is a quantity surveyor. It is well known that the architect, besides taking a most inconvenient responsibility, has to make his estimates for nothing. The surveyor, on the other hand, must be paid, and this of itself places the matter on a proper footing if people would but look at the case in the right light. Let the employer pay what fee he pleases, and let the surveyor pledge his responsibility according to the fee. If the fee is a small one, the estimate can only be a rough approximation; if the estimate must be precise and guaranteed, the fee must be a large one. Moreover, "an architect's estimate," as matter of fact, has become a by-word for unreliableness, and on this ground if no other an architect may very reasonably shift the task upon the shoulders of a surveyor. We do not hesitate, as a plain matter of business, to recommend this practice.

NOTES ON THE COSTUME IN THE PICTURES AT THE ROYAL ACADEMY.

By E. W. GODWIN, F.S.A.

WHATEVER may be the value of the progress of the *Art of Painting* during the last quarter of a century, there can be no question that the painter's knowledge has increased, and that he has made some progress in that branch of science which we call Archaeology. There are, it is true, Royal Academicians who persist in presenting us with costume, architecture, and accessories wholly their own. Mr. COPE, in his picture of *Anne Page and Slender* (56), Mr. DOBSON (226), and Mr. FRITH (249) are prominent examples. In opposition to these may be placed Mr. ALMA TADEMA (20), Mr. E. J. POYNTER, A. (233), Mr. PETTIE, R.A. (565), and notably Mr. E. LONG (482). Between these two extremes we find a number of paintings exhibiting costume mainly of two periods—the one founded on the Greek dress of three or four centuries before CHRIST, the other taken from the English of the last century. With the exception of one or two painters, no one has ventured to represent anything of the *Roman* or *Moyen Age* periods earlier than the fifteenth century.

There is something very suggestive in this, and taken in conjunction with the latest phase of architectural revival, and the extraordinary mania for delf and china of really worthless colour and design, it exhibits a condition of artistic feeling as narrow as anything yet manifested in the Gothic revival, and reveals a state of things which is as sad to contemplate, and as sure to be disastrous, as the Gothic chamber mania of some years ago, the final outcome of which was the Strand Music Hall. But let it not be supposed from what I have just said that the mediæval costume—of our painters—would have been more welcome than Mr. G. D. LESLIE's young ladies of A.D. 200 and 1780. Our great grandmothers' wardrobes we know, for the veritable robes may still be seen intact; and as to the others, they lived so very long ago that no great blame can be attached to Mr. LESLIE if his model's tunic is not exactly like an old one. Again, the later dress is so like many modern toilettes, and the earlier costume is so free and easy, and so little removed from an ordinary night-dress, that it is hardly possible for an artist's model to be other than thoroughly at home in them. On the other hand, the actual costume of the Middle Ages has only been seen at rare intervals, when the well-preserved long-buried body of some king has been exhumed, but—

Which at a touch of light, an air of heaven,
Slipped into ashes and was found no more.

So we have to make anew the mediæval dress according to the evidence supplied by picture and by description. These are so plentiful and so detailed that in the *right hands* and under *certain conditions* no insurmountable difficulties should ever be experienced. But somehow the tunic of the thirteenth or the jupon and hood of the fourteenth century never are made under hands or conditions which would ensure success; for whether the subject of the painting be an afternoon's amusement in the reign of EDWARD III., or an episode in the life of his grandson, the costume is sure to be unnatural and stagey. Stagey altogether, not only in the Bow Street cut of it, but in the manner of wearing it. Indeed, whether on the stage, at bal-masques, or in modern pictures, the human form seems to lose all life and sink into little more than a lay figure the moment it assumes a garb that at all approximates to those in vogue during the period of the Middle Ages. For quite apart from the defects in the pattern or shape or detail of the dress, neither actor nor masquer nor model can properly dress themselves; nor can they look wholly unconscious of what, owing to their ignorance, is to them a strange, not to say mysterious, novelty; nor can they cover up this sense of novelty, but, on the contrary, every motion and expression is a reflection of awkwardness and discomfort. If some reasonable amount of care were bestowed on the costume of the thirteenth century, and the people who have to assume the characters of that time, or those who teach them, would only take a little trouble to familiarise themselves with its habits and the general tone of its life, there would be opened to art a continent of beauty hitherto untouched. But let no one fancy that this sort of thing is to be done in a few weeks or even a few months. Gothic art, whether in architecture or dress, has been travestied and vulgarised until we sicken at the very name and turn for comfort to our great granddams. Nevertheless, the art remains, nor will all the scorn of a glorious art-period like ours, with all the brilliant wit, and all the sober wisdom, and the profound knowledge, and the acute sensibility that are so very manifest in the works and conversation of modern artists be found sufficient to outweigh it; and so, in spite of that mighty advance we have made through which we may yet hope to see in London a collection of farm-houses and a population to harmonise with them, I would venture to suggest to our younger artists that in the works of the thirteenth century they may meet with beauty of costume akin to that of the Greek, a naturalness not less than that of our great-grandmothers, a purity and freshness of colour which have never been surpassed, and accessories of architecture, furniture, &c., which have rarely been equalled in design either of mass or detail.

I said a few lines back that the present Royal Academy Exhibition

contains some few pictures with Mediæval externals. As they are few and far between we will first get rid of these before we enter the wide field of the Classic and Hanoverian periods. Besides some meaningless Italian youths in armour and some vapid maids of Astolat, we have in the pictures by HORSLEY, COPE, ELMORE and HERDMAN the stage costumes of twenty or thirty years ago. Messrs. ELMORE and HERDMAN, in 211 and 901, attempt subjects taken from the life of MARIE STUART when living in Scotland. Both artists seem to be quite indifferent to the quality or nature of the material used for dresses by ladies of the Court of France during the reigns of FRANÇOIS II., CHARLES IX., and HENRY III. Throughout these reigns, or from 1560 to 1590, gowns and kirtles were made of materials of the stiffest quality, a quality frequently exaggerated by the addition of braids or guards, and heavy embroidery. Mr. PICKERSGILL (203) manufactures his Mediæval wardrobe from a warp of Academy traditions, and a woof of his own unfettered inner consciousness, and as the subject is taken from TERNYSON, and is all about cruel love and old letters, his costume is more than equal to the subject and the painting thereof. Mr. FRITH gives us in *La Belle Gabrielle* (249) an illustration of his version of French costume in the reign of HENRY IV. The young lady wears long corkscrew curls, a broad lace-edged lapel collar high round the neck, and formed on the body of her gown, which is open in front, has puffings on the shoulders, and hanging over-sleeves—a dress which reminds one of a noble lady of Padua of 1589 rather than *La belle GABRIELLE*. Mr. MILLAIS, like Mr. PICKERSGILL, indulges in poetical costume. In *The Crown of Love* (214), which introduces us to "that young lover of romance, who loved and gained so gloriously the fair Princess of France," we have a man in a red velvet coat tight-sleeved, over which is a sleeveless green damask *blind* of the middle of the thirteenth century. On his feet are sandals (which, by the way, appear to have been worn by monks as late as the first half of the twelfth century), and on the ground is his cap of red velvet, flat-shaped, bound with rows of pearls and mounting a white feather: date 1490-1500. Mr. TOPHAM selects an historical subject, and supplies us with some of the military, religious, and civil costume of Italy in 1442, taken, I suppose, from some theatrical wardrobe, where a century or two between the character of the ladies' dress and that of the armour is never worth considering. Mr. H. WALLIS gives us 1453 as the date of his subject—*Fugitives from Constantinople* (386)—and in the little amount of costume which he shows makes one wish that he had given us more figures and less architecture. But perhaps the extremest height reached this season in the matter of costume, poetical or historical, is to be seen in (612) Mr. T. F. DICKSEE's remarkable illustration of the second Scene in the fifth Act of "Othello." The stage costumes are bad enough. *DESDEMONA*'s ever recurring modern white satin dress and *OTHELLO*'s biggledy-piggledy of apostolic robes and guerilla jackets are ludicrous in themselves, and worse than ludicrous when they give occasion, as they not unfrequently do, to the exhibition of low-bred manners and unartistic action. Happily, however, the pictures of the modern stage are ephemeral, and therefore any violence or wrong done to Art in their production is not to be compared with the long-lived follies perpetrated on canvas. Mr. DICKSEE with his Georgian bedstead, his modern English little NELL which he calls *DESDEMONA*, his dressing-gowned minstrel that stands for *OTHELLO*, has outstaged the stage, and has produced a work of which the kindest thing I can say is that it is a feeble caricature. Mr. PETTIE (565), Mr. YEAMES (175), and Mr. LUCAS (136), give single figures in one of the simpler kinds of costumes prevalent during the first half of the seventeenth century, and have carried them out with care, Mr. PETTIE not only having drawn but really painted us a leathern doublet.

And now what is to be said of Mr. G. D. LESLIE and his host of followers? Have we had enough of the costume they affect, or do we want more of it? Are tippets, mob caps, and broad brimmed hats necessary accompaniments of the china mania and farm-house fancies? Or is there not something about this sort of thing that savours a little too much of the affectation of innocence and simplicity? Doubtful dairymaids and short-skirted shepherdesses may be all very well in a Watteau-like ballet on the stage of the Alhambra or in Chelsea china, but modern life is artificial enough already without the addition of that worst of artificialities—the assumption of a rural simplicity and a sweet Arcadian naïveté, which are as foreign to the heart of modern society as are Greek refinement and Gothic strength. If Mr. LESLIE were the only artist who contributed illustrations of the costume of a hundred years ago, no complaint could justly arise, for there is no reason why our great-grandmothers should not have their representative, and certainly no one is better qualified to fill this post than Mr. LESLIE; but now when ten or a dozen artists follow in his wake it will require more power than we have yet seen in him to maintain his star in the ascendant. Of the pictures I have marked in the catalogue as Georgian, it may be sufficient to say that all are fair transcripts of the costume they are supposed to represent, and yet I am free to confess that by the time one has seen three of them—Mr. LESLIE's *School Revisited* (196), Mr. PRINSEP's *Minuet* (125), and Mr. VERNON's *Jealousy* (897)—one has had quite enough of this style of costume.

The Classic school in the Academy may be divided into the Dreamy and the Archaeological. Mr. ALBERT MOORE is pre-eminently the leader of the first as Mr. ALMA TADEMA is of the

second. Mr. MOORE's followers are few and far between, and it is a question whether, like Sir JOHN FAIRSTAFF, he may not sometimes feel ashamed of them, but no one will deny to the semi-Greek drapery this artist delights in a high degree of beauty—sensual it may be, but still beauty, and that, too, far more refined, subtle, delicate, in a word far more Greek than any of the Classic costumes at Burlington House. On the other hand we have in Mr. ALMA TADEMA's works the evidence of considerable archaeological research, evidence which is perhaps too prominently put before us by the exhibition of absolutely hideous but forgotten fashions. His women, too, are lazy, and massive like their costume: Mr. MOORE's are also lazy, but the laziness of the first is as of the stagnant pool, that of the last as of the summer sea. Mr. ALMA TADEMA is one of the most correct painters of costume we have, but he is at times almost as oppressive with weight of facts as Mr. MACLISE used to be; Mr. MOORE gives us scarcely a single fact. We never see buttons or loops, girdles or sandals, or diplois, but yet in spite of all these omissions he recalls more than anyone else the essential qualities of Greek costume, and then he is happy in having models who can wear their thin many-folded chitons as if they had worn them all their lives. I would suggest to Mr. WATERHOUSE (76 and 360) a different yellow for the saffron colour to which Greek women were so addicted, and the chiton of MIRANDA need not, it seems to me, have been quite so tight. Mr. POYNTER, in his admirable composition, *The Festival* (233), is neither like MOORE nor ALMA TADEMA, but stands midway between them—a costume partly founded on fact and partly on imagination; I say imagination, because it is not easy to see how Mr. POYNTER's model could have put on the dress or chiton in which he has clothed one of the figures in *The Festival*. Mr. J. B. BEDFORD exhibits a picture of HERMIONE in a white single chiton, with a yellow peplos thrown over the left shoulder and passing across the body under the right arm; there is a semicircular arch behind the figure, and some black and red vases on the floor. The general effect is Roman rather than Greek; but this sort of drapery costume is so extremely commonplace, that when perfectly free of detail, as this example is, it would be best perhaps to leave it nameless. Mr. ALMA TADEMA would have told us something of old days in girdle, head dress, or ornament, and brought us face to face with life in Sicily, if only dressing-room life, but Mr. BEDFORD gives us nothing more than any country theatre could have supplied. And yet, void of all kind of interest as it is, *Hermione* is altogether in advance of Mr. W. V. HERBERT's work, No. 387. Here we are distinctly told that the scene is taken from "Ancient Athens," and we find ourselves in a public place with a bundle of rags and a figure called Joy, an altar, square pedestals, and unpainted walls. The notion of a joyful dress is conveyed to us by means of a white chiton wrongly girded, and a scarf or chlamys of a certain pink colour, the secret of which it is to be hoped is only known to Mr. HERBERT. The pedestals are in bad perspective, and the odds and ends—which are supposed to lie on the ground—are endowed by the medium in pink with the property of floating in the air; but these are mere trifles, hardly worthy note in an Academy picture, especially when placed on the line. Mr. HERBERT, however, can never be alone so long as Miss T. THORNTON (475) is permitted to show her classical rendering of eastern allegory. Mr. ARMITAGE, R.A., attempts the distinctly historical, and in his large picture of *Julian the Apostate* (518) gives us his ideas on the costumes, architecture, furniture, &c., that were seen in Rome A.D. 361-363. Here we have just the same sort of commonplace as in Mr. BEDFORD's *Hermione*, and the whole *mise-en-scène* might very well have been painted from Bow Street or green-room authorities. Mr. G. D. LESLIE, A., has doubtless very good reason for putting the date A.D. 200 to his diplois-robed girl on the banks of the Thames (1,193), but I fear the title has been fitted to the picture, and not the picture to the title.

I have reserved for my last words Mr. E. LONG's very admirable painting, *The Babylonian Marriage Market* (482). Architecture, decoration, furniture, costume, and personal ornament are here so carefully worked out that Mr. LONG may be said to challenge criticism in a measure which no one else has attempted. No date is given, but we may take it for granted that the subject belongs to the high and palmy days of the Babylonian Empire, B.C. 600-560. The scale, cuirasse, and not a few other features would indicate a period as early as B.C. 900-800, or the early days at Nimroud, when ASSUR-NAZIR-PAL was king, rather than the time of NEBUCHADNEZZAR. There can be very little doubt that Mr. LONG has searched the Assyrian slabs in Great Russell Street, or illustrations of them, for most of his authorities. The bracelets, armlets, necklaces, mode of dressing the hair, girdles, &c., which are found in the picture, are also to be seen on the sculptures of the north-west palace of Nimroud. Indeed, to such an extent has the Assyrian sculptor influenced the English painter, that the blocked-out, square-cut, conventional stone beard of the chisel has been painted, and not the hair beard of nature. The "flaming cuirasse of a thousand dyes," which HOMER gives to PATROCLUS, is here explained by Mr. LONG, but we may not unreasonably ask whether a Greek or any other warrior would walk about Babylon and attend sale-rooms in hot brass helmets and in full panoply of war? Again, the vest or chemise worn by some of the slave girls is made high in the neck and with a broad hem or band, for both of which I can find no sufficient warrant. The girl who is being sold has on a long thin semi-transparent fine linen skirt, held up by a deep embroidered waist-girdle, and a thin

vest or veil is just being taken from her. This costume, both in form and material, strikes me as artistically and archæologically wrong, and but for the girdle, would have an extremely modern look. A fine woollen chiton (finer than the finest fabric anywhere now made) falling round her hips, somewhat like that on the so-called Venus of Milo, would, in my opinion, have been in every way a better treatment. To take exception to details and to be critical about minutiae in this way only show what a strong hold the painting has on one. It is unquestionably the work of an artist who has manfully striven to be right, not to outrage a single point of history, and yet to keep his facts in due subordination to the human nature and human interest of his subject. Had there been nothing whatever to question, the human interest might have been still greater. Accessories of costume, &c., in pictures, whether on canvas or on the stage, should be either altogether wrong or wholly right, that is, if we wish to keep the humanity, as it ought to be, paramount. But when the worry of research, and the evidence of unfamiliar labour is proclaimed by the presence of little oversights and errors, the unquestioning satisfaction we might have enjoyed is no longer possible, and the pleasure gives way to criticism.

ARCHITECTURE AT THE ROYAL ACADEMY.—III.

WE have now examined the drawings which immediately challenge the attention of the visitor. Of the remainder, those which require notice may perhaps be conveniently classed in groups, beginning with a group of churches. The first of these is the design, by Messrs. PAULL & BICKERDIKE, for Christ Church, Westminster Bridge Road (925), an ambitious design of Gothic character for an octagonal building, now being erected for a Non-conformist congregation, with a nave, transept, and a western tower, this last being a very conspicuous portion of the group. Mr. BROOKS, who seems hardly in such force as usual this year, exhibits his Church of the Annunciation, Chislehurst. This is a lofty but plain building, consisting of choir, nave, and western tower, with a somewhat rich north porch. The belfry stage of the tower has large striking openings, and extremely plain, bulky pinnacles rise at the starting of the spire. In other parts the features are as plain as they well can be. Mr. BROOKS also exhibits the interior of this church (1,008), and that of a church at Northfleet (981); in both these drawings he has adopted low proportions for his arcades and stumpy cylindrical columns, and evidently aims at breadth rather than grace. Mr. SEDDON exhibits a design (934) for a long, lofty Memorial Church, without aisles. He has placed his tower at the west end of the nave, but the drawing, which shows the eastern view of the building, does not explain how certain difficulties of treatment, which the plan seems to foreshadow, have been met. The drawing is excellent in execution, the detail perhaps rather florid, but discreetly contrasted with large masses of masonry. Mr. GILBERT SCOTT, JUN., exhibits the interior of a church, having a similar memorial purpose (938). He shows a groined nave, of late Decorated character, and, in our opinion, his drawing, which is very striking though cold and reedy, is more powerful than his design, much of which is meagre and wanting in charm or grace. Mr. SCOTT's other contribution has already been noticed. Mr. SOMERS CLARKE, JUN., sends additions to St. Peter's Church, Brighton (940), but the result of them hardly promises to add to the reputation of this rising architect, for the building looks far more like a room than a church. Mr. JOHN O. SCOTT exhibits St. Paul's Church, Manchester (947), a building with a wide nave, low aisles, fitting apparently into an irregular plot of ground, and a gabled tower, the whole treated with some originality and conspicuous by the finish of the tower, which, to tell the truth, is more a blemish than a beauty; apart from this the design has considerable merit. Mr. E. C. LEES' Whitechapel Church (959) is hung almost too high to see. It consists of a lofty transeptal church, with a good tower at the north-west angle, and is marked by the ability with which the rich belfry stage of the tower has been treated and made to tell out by masses of plain work which are contrasted with it. The design deserved a better drawing, and would then have no doubt obtained a better place.

Mr. PEARSON, whom we ought earlier to have named, contributes what he modestly styles a sketch of his church now building in Red Lion Square (955), and the reredos in his Kilburn Church (972). Of these the more important contribution is the first named, which, slight though it may be in execution, exhibits with great power and breadth the interior of a groined nave, and beyond it we look into a choir, also vaulted, of simple and noble character, and fully equal to most of this architect's other designs, though less elaborate than many of them. Mr. DESHON sends a somewhat grim interior of a Mission Chapel, sufficiently elementary in its construction to suit the savage craftsman's mode of building, but needlessly devoid of grace. Mr. PEDLEY, Mr. HORNER, and Mr. CHAMPION send drawings of churches: the last, a proposed restoration, very well drawn. Mr. SULMAN sends an exterior view of that difficult problem, a church-like dissenting chapel. Mr. ROWLAND PLUMBE has tried his hand at the same sort of building (1,029), but neither of these two gentlemen has fully grappled with all the difficulties of the case—difficulties which, from some points of view, and with perhaps limited funds at command, are well-nigh insurmountable. Messrs. SCOTT &

HYDN send a sketch in colour of the interior of St. James's Church, Brighton; this is a lofty and somewhat sombre nave, and to a considerable extent depends upon coloured materials for its effect—these seem to have been employed with considerable judgment and corresponding success. Mr. NICHOLL exhibits (1,084) a homely, but pleasing, little sanctuary, with a plain rood loft and a rather rich reredos of very original and clever treatment and bright telling effect. In this design very late detail is introduced, and the architect has known how to turn to good account the flexibility and variety which that detail places at his disposal.

Executed public buildings are not this year at all conspicuous on the walls of the Academy, and but for the unsuccessful competition designs for them which have been admitted, this class of contributions would have been even worse in quality and numbers than is actually the case. The first such drawing which we have marked is Mr. CORSON's view of a warehouse at Bradford (936)—a plain, square block of commercial buildings, to which the grouping of the lights and the introduction of dormers and other features in the roof gives a certain amount of character. The exterior view of Mr. COLLINS' design for the New Liberal Club (937), and the very spacious dining-room of the same (1,007), are exhibited. The exterior is of good Italian character, but liberties have been taken with the architectural features near the entrance, which do not improve the general effect of the design. We almost regret that one or two of the other designs in this competition, especially those by Mr. CHARLES BARRY and Mr. CHATFIELD CLARKE, and the successful design by Mr. GRAYSON are not exhibited. Mr. ASTON WEBB sends an interior of his Grocers' Schools Dining Hall (943). This makes a striking drawing, but probably would have proved heavy in execution, for this, too, is an unsuccessful competition design. Mr. WEBB shows iron ties across the hall, starts his ceiling with a deep cove, and then follows the slope of rafters and collars. The same competition is illustrated by Mr. BRANGWYN's picturesque design (976), and by a very good drawing of Mr. ALLEN's selected design (982). This we are glad to see here, and to find in many respects superior to what might have been anticipated from the very imperfect sketch of it which obtained the first position in the competition. The general forms of the building are good and simple, and the central lantern is sufficiently massive to serve well as a crowning object to the whole; but the detail is, in some respects, open to exception. The principal entrance, for example, wants importance, and there is a certain clumsiness about the head of the second floor windows which might easily be remedied; yet, notwithstanding these and some other shortcomings, the design, as a whole, is undoubtedly successful. Mr. H. B. GARLICK sends a view (962) of business premises about to be erected in Aldersgate Street, which will sustain his reputation as an architect of ability. This block appears to be divided into four frontages, and each house is seven storeys high. The fenestration is happy, and, in many respects, original. Mr. R. E. TYLER contributes the Hanover Square Club (987), a lofty pile, which is to take the place of the famous concert room. This is a high building, having a certain amount of irregularity in its openings and spaces which the architect has attempted, but with only moderate success, to mask by the use of regularly spaced pilasters; we fear the irregularities will catch the eye more easily than the features put in as a counterbalance to them.

A building which is now in course of erection in Westminster as an Aquarium and Winter Garden, is exhibited by Mr. BEDBOROUGH, who contributes a view of the exterior (908) and one of the interior (1,006). This appears to be a structure of great size, low for its length, executed in brick, and with two towers of moderate height at the entrance. A segmental roof spans the back of the structure, and is distinctly seen in the view. The interior shows this building to resemble what the transept of the Crystal Palace would be if its roof were brought down to a very moderate distance from the ground. The interior will depend largely for its success on its decoration; the exterior seems to promise moderately well, but hardly so well as that of the Plymouth aquarium (999) by the same architect, which is a more effective building, though a smaller one.

Mr. BRANGWYN sends a quaint design for the Hastings Town Hall (1,002), and Mr. W. EMDEN a drawing of the new entrance in Piccadilly to St. James's Hall (1,019). This is a tall square composition, of several storeys, with pointed and cusped arches to the windows, and a kind of Venetian Loggia on the top storey. The skilful Venetian grouping of the openings which adds such interest to façades of a similar character on the Grand Canal has unfortunately not been attempted here. Mr. ELLIS sends a well-drawn and carefully coloured view of part of the interior of St. Paul's Cathedral (1,021), much marred, however, by his clumsy drawing of the statuary; and next to this sketch comes a drawing by Messrs. J. & J. BALCHER of their New Hall and warehouses for the Curriers' Company (1,022), which in its quaint picturesqueness reminds us more of DORE's imaginary Mediæval Architecture, in such illustrations for example as those of the *Contes Drolatiques*, than of ordinary city buildings. Mr. BURDER and Mr. GIBSON exhibit plain town buildings, and here we might have allowed the list to close in a quiet way but that at the very end of it we come to such a surprise as the Royal Academy has not furnished us for a long time. We allude to a "design for a new National Gallery, drawn by E. CLARK, from designs by Sir J. H. RAMSAY, Bart." (1,040-41). We have no hesi-

tation in saying that these two large drawings are the worst we have seen exhibited at the Academy for many years. The plan, which is devoid of any of those qualities which justify the exhibition of a plan as a work of art, fills a large frame. So does the meagre unpractical elevation, portions of which are really on a level with BARRY LANGLEY's worst detail. Let those who believe this to be impossible look at the corbelled balcony over the central entrance. Were the Academy an exhibition where there was difficulty in filling the walls the presence of these drawings would be taken to indicate the necessity which the hangers had felt put upon them to make use of all their material, good, bad, or indifferent. As matters stand it is simply inexcusable.

We must conclude by a hasty notice of the mansions and smaller houses exhibited. The larger number of these are of late English domestic Gothic type, though not a few are of seventeenth or eighteenth-century character. Mr. E. F. C. CLARKE sends two views of a large, rather over-windowed, but picturesque house (968 and 1,047), disfigured by a dark verandah. Mr. R. NEVILL, Mr. CORSON, Mr. COLLICUTT, Mr. EDIS, and Messrs. DRIVER and REW, all contribute houses of the same general character—the last-named one (961) being well worth study. Mr. A. GRAHAM exhibits (958) a good specimen of late English work, much of it half-timbered. Mr. SAUNDERS and Mr. AULD are also exhibitors, the last-named architect contributing a geometrical elevation of a town house (977), of very florid Renaissance style, open to criticism in many of its details but effective on the whole. Mr. MEW contributes a view of Madingly Hall as altered by him (990), which shows a decidedly picturesque and pleasing building. Mr. ADAMS (992) a house of debased Renaissance, and Mr. HOWELL (1,003) one of tolerably pure Renaissance, with a broken skyline and roof. The latter architect, moreover, also exhibits a good half-timbered house (1,027). Mr. W. YOUNG contributes (1,000) a cleverly-designed mansion, perhaps too much crowded with features and damaged by a peculiarly weak central tower. Mr. W. M. TEULON sends one of his country houses (1,012) of brick and half-timbered build, but the general effect of which is too straggling and homely to be quite like a mansion; the design would better fit a superior farm-house. Mr. BRAZLY sends (1,011) a very picturesque house of compact form, admirably broken up and enriched, which he is erecting for Mr. WEIGALL; Mr. SEDDING (1,010), a large but rather formal mansion; Mr. NATHANS (1,020), a simple but pleasing country house, of which the windows seem, if anything, too small; and Mr. CORSON, a plain sensible dwelling (1,026), with just enough character about it to give a claim to be called architectural.

Our notice will close with the School House, Malvern College (1,025), contributed by Messrs. HADDON; a domestic building of much more claim to architectural character than many of those we have touched upon. It is Gothic, with steeply-pitched roofs, and occupies the slope of a hill to which it is cleverly adapted, while a tower of simple design, but with a very artistically-arranged roof, forms the flanking feature of the whole.

PAINTING AT THE ROYAL ACADEMY.—IV.

THE portraits of Mr. MILLAIS and certain portrait studies by artists of the Scotch school have already come under review; many yet remain that claim remark on their merits or demerits. The President has a subject that suits him in *Joseph Walker Pease, Lieut.-Col. 1st East York Rifle Volunteers* (255); a large country gentleman, in a well-fitting uniform, with plenty of leg and a not oppressively intellectual head, full length—this is the very thing for Sir FRANCIS GRANT, and Colonel PEASE's Conservative friends who have clubbed to present him with his own portrait have every reason to be content. Perhaps *The Lady, No. 197*, wished to be painted in the style of the Book of Beauty of our young days, in that case she also may rest happy, for both arrangement and execution are worthy of the Keepsake order of portraiture.

The veteran Mr. RICHMOND crowns long and good service with the noble portrait of *Sir Moses Montefiore* (290): in a manly and trenchant, if unidealised, reading of feature and form, in firm handling, in well considered arrangement, this portrait is a worthy pattern, and an example not unneeded when young artists find such differing of doctors as must be traced between Mr. MILLAIS and Mr. WATTS, Mr. WELLS and Mr. LEIGHTON. In the way of honest prose, supported by good solid work, but unlightened by imagination, comes the best portrait of Mr. WELLS—*The Right Hon. W. E. Forster, M.P.* (183) is a success, and in every way a legitimate one; as for the big *Hunt Picture* (112), the commission involved difficulties with which the painter has bravely struggled, and not wholly without good result; yet is the colour certainly chalky, and the handling timid and characterless.

The popular pencil of M. SANT is singularly unequal this year, yet probably the painter has never achieved greater reward than in the group of sisters, called *The Early Post* (191). The faces of the three ladies appeal as unflattered, yet tenderly caught likenesses; the figures are skilfully varied in easy attitudes, and no less skilful are the changes rung on qualities of white drapery; only we must protest against the proportions of limb indicated by the folds of the dress in the girl reading a letter; a certain famous virgin by PAMPHILANO is as nothing for length compared to this figure; moreover the crossing of the feet is clumsily managed. Mr. OULLES is steadily

fulfilling the promise made some years back; perhaps more successful than the head of Mr. DARWIN, good though it be, is the half-length seated figure of Mr. MARKS, the artist. Both for character, picturesque lighting, colour, and firm brush, this is a capital study. Admirable also is *H. D. Pochin, Esq.* (248), seated at a table surrounded by chemical robes. Happy the lady whom Mr. LEIGHTON chooses to paint. *Mrs. Gordon* (307): a small, half-length study, in a red dress, is delightful. *The Venetian Girl* (354) is surely the sweetest face, most perfectly painted, yet seen within the Academy walls. The portraits of Mr. WATTS are generally confined to face, bust, and hands, sometimes merely to the head and shoulders of the sitter; yet how much of the whole character we seem to gather within these limits. The dusky harmonies of this artist's palette are dusker than ever this year; yet who for the most tender carnations and creams of complexion, or the richest of draperies and most knowing of accessories, would exchange the subtle play of tones in brow and cheek, the outlook of spirit from eye, and eloquence of emotion in mouth, the quiet green backgrounds and subdued textures which Mr. WATTS presents. The saying of COLERIDGE that a picture is between a thought and a thing recurs as one looks at such studies as the portraits of *The Late Marquis of Lothian* (420), *Sir Edward Sabine* (188), *F. W. Walker* (193), and above all that musical sprite *Blanche* (266) with her violin.

Mr. ARCHER halts halfway between the picturesque and the prosaic schools in his treatment of portraiture. We think he had not by nature the gift of colour, but he has cultured his eye into a sense of colour harmony much above the common run; he is studious of accessories, and loves a fresh attitude. A fine subject has rewarded conscientious labour in the portrait of *Professor Blackie* (221). The intellectual brow, the pronounced features, picturesque silvery locks, herculean frame with plaid over shoulder, and defiant pose of the well-known Professor of Greek have been aptly caught and placed against a background of Scotch hill and loch. The chalkiness into which Mr. ARCHER is apt to pale his flesh tones is less observant in the sallow cheeks of the Professor than in the face of the *Lady with a Moorish Shawl* (5) or the refined portrait of *Mrs. Hutchinson* (1,214). Fine flesh-painting is not a strong point in the ladies' portraits of the year, though Mr. SANDYS has essayed a brilliant example of elderly bloom in his more peculiar than agreeable contrast between the rosy cheeks of *Mrs. Brand* and her formal white cap and black dress, and leafy background of impossible oleanders and tea roses. Devices how to make pretty pictures out of portrait commissions are not wanting, and among the more successful we may name *A Green Thought in a Green Shade* (54), by BLAKE WIRGMAN; *Mother and Child* (541), by R. MACBETH; *Isabel* (615), by VAL. PRINSEP; *The Stolen Key* (608), by C. S. LIDDERDALE; *Miss Margaret Stuart Worley* (317), by A. S. WORTLEY, &c. On the whole it is satisfactory to note a decline in the dressed-up, album style of portraiture in which Mr. BUCKNER reigns supreme. Character, sometimes at sacrifice of beauty, fidelity at cost of ideality, as in the excellent portrait of *Robert Browning* (90), by Mr. LEHMANN, picturesqueness versus imitation—these seem the compromises into which our portrait painters are driven. Ideality such as REYNOLDS and GAINSBOROUGH knew the secret of, completeness of artistic insight of which the great old masters wielded the power, we cannot discover save in very feeble beginnings and strivings. But even beginning and striving is better than nothing, and an effort to raise the standard of portraiture is one of the best signs of life in our school.

HIPPOLYTE FLANDRIN.*

FOR many reasons a biography of Hippolyte Flandrin ought to be interesting to English readers. Although he was a painter with exalted aims, and devoted himself at some sacrifice to the highest form of his art, yet, as he hated publicity and lived retired as long as he could, few outside his country (and probably not many Frenchmen) are likely to be acquainted with the story of his life. Then he has as much claim as Scheffer or Overbeck to be regarded as "A Christian Painter." M. Beulé, in speaking at Flandrin's funeral, said he might have belonged to a bygone age, and have been a Christian neophyte painting the catacombs, or a Mediæval artist labouring with fervour in the chapel of his monastery. A man thus inspired in these days, and especially in modern France, is a phenomenon that is worth reading about. The materials for the present biography have been partly supplied by M. le Vicomte Delabarde, and they have been worked up so as to produce a charming book. The author, we believe, is a lady, and naturally has been attracted by one side of Flandrin's character, but it would have been an advantage if more information had been given respecting his works. It is also, we hold, an imperfection in a biography that we are unable, after reading it, to conceive even an imaginary portrait of the subject. The author has not only not attempted to describe Flandrin's outward appearance, but does not supply a portrait sketch of any kind. The artist records his life in his works, and as Flandrin's pictures on the walls of St. Germain des Prés and other churches in Paris, Nîmes, and Lyons, are not likely to be as well known to most Englishmen as the easel pictures of inferior artists, it would have added to the interest of the

biography if some slight engravings were introduced of the works, the merit of which most readers now must take upon trust. With these exceptions we can find no fault in the work, and by its aid we shall now give a brief outline of the painter's life.

Hippolyte Flandrin was born at Lyons in March, 1809. His father was at one time in a house of business, which he forsook, led away by the desire of becoming an historical painter. He won neither fame nor wealth. The world has already become as oblivious of his works as of many others in the same exalted line, and if he had any merit the Lyonsese art patrons did not perceive it. Many a lofty ambition, it is said, has been brought low by baby fingers, and to find bread for his family the would-be follower of high art had to descend to miniature painting. It must not have been easy in those days to make ends meet in the little house in the Rue des Bouchères, and one can well understand how, from having to manage with so precarious an income, Madame Flandrin did not look upon art with affection. Her eldest son Auguste was permitted to follow his father's calling, but for the two other boys she resolved that they must have some certainty of a livelihood, and that Hippolyte should be apprenticed to a silk mercer and Paul to a tailor. It is probable that the Flandrins were unable, through lack of means, to make arrangements for their sons entering these businesses, it would seem that they were not even able to send them to school. For some time the boys were therefore allowed to follow their inclinations by spending their days, not unprofitably, in taking sketches of soldiers and military scenes, for which Lyons offered so many opportunities. When Hippolyte was about twelve the sculptor Foyatier called upon the Flandrins, and through his advocacy, backed as it was by the evidence of his own prosperity, Hippolyte and Paul were allowed to become pupils in a studio of which M. Magnin, the painter, and M. Legendre-Héral, the sculptor, were directors. Afterwards they were admitted into the Academy of Fine Art at Lyons. Here Hippolyte studied hard for seven years, besides drawing from life out of doors. His intention at that time was to become a painter of military subjects, after the style of Horace Vernet and Charlet. But all this labour brought no addition to the scanty resources of the family, and it was often difficult to sustain the pressure of poverty. "The two boys," it is said, "who were the most dutiful and affectionate of sons, strove to lighten their parents' burden, to which they were conscious of adding by the pursuit of their dearly loved profession, instead of following a lucrative trade. It is touching to find them striving in every possible way to earn a few sous; one time drawing little vignettes for the shops where cheap pictures are sold, another time executing lithography, and gladly selling a stone with twenty finished subjects for fifteen francs, even designing rebuses and bonbon cases for the confectioner; anything whatsoever that could bring in a handful of grist to the slowly dropping family mill." Throughout their lives the sons acted in a spirit no less generous. Indeed, the affection of the sons to the parents is so beautiful as to give an idyllic charm to the letters which relate it. In course of time it was felt that Lyons was an insufficient school for either Hippolyte or Paul Flandrin, and that it would be an advantage for them to enter one of the Paris studios. By dint of the self-denial of the family a little sum was husbanded for the purpose—but it was so small that, in order not to be penniless at their journey's end, the two aspirants were compelled to walk nearly the entire distance between Lyons and Paris. They arrived in April 1829.

The student life of the Flandrins in Paris began humbly enough. They took an unfurnished room on a fourth floor in the Quai de la Cité, at what they thought was a high rent, viz., 140 francs a year. The furniture consisted of a bedstead with paillasses and mattress, a table, two chairs, a candlestick, a water-pot, and a broom. Their manner of living is thus described in one of their letters. "We get up at five o'clock and go out for a whiff of fresh air in the Luxembourg, which is not far, and then at six we set to work. At eight or nine we breakfast. Unfortunately, bread was never so dear as it is just now. Then we work till six in the evening. Our breakfasts cost five sous each, and we dine for fifteen sous a-piece, which makes forty sous a day between us." But there were days when even this frugal fare was not attainable, and the brothers were sometimes even compelled to make a joint dinner off three sous' worth of fried potatoes. Often they had to go supperless to bed, and during their first winter in Paris "they used to do this as early as five in the afternoon, as the only way of enduring the cold of their draughty, fireless attic."

But the brave fellows never complained of their privations. They had youth, strong wills, and the consciousness of power; they were devoted to painting, and they were determined to be successful if it were only for the sake of helping the old father and mother who were toiling for them in Lyons. This love of home sustained them. "Almost every night," Hippolyte wrote, "I am off to Lyons, and yesterday I was downright cross with Paul for waking me, because just then I was embracing you all. I was crying for joy. Remember that we agreed to pray for one another every night. I never fail to do so, and I am quite sure our poor mother never fails either. She loves us so dearly and she is such a long way off! Poor father and mother, your children are all scattered now."

When the brothers left Lyons it was supposed that they were to become pupils of M. Hersent. But on the recommendation of a student they met they joined the studio of Ingres. It was no mere caprice, they assured their father, which led to this. "M. Ingres," wrote Hippolyte, "is reckoned in Paris as a man of higher talent than M. Hersent," (imagine anyone now comparing Hersent with Ingres) "and further, his school is much better governed and quieter. He does not allow the detestable buffoonery which often makes it impossible for the best men to remain in a studio." So different was Ingres's style from that of the Lyons school that Hippolyte Flandrin had to unlearn almost all the principles of art he had acquired. But he was a model pupil; his own sentiments coincided with those of the master's in veneration for the antique and imitation of nature. Ingres used to say to the pupils:—"When you fail in the respect you owe to nature, or affect to correct her, you strike a blow at your mother herself." This was a principle which Flandrin above all was prepared to accept, and before many months had passed he was called on to vindicate the efficacy of a system of teaching which was based upon it.

* "A Christian Painter of the Nineteenth Century," being the Life of Hippolyte Flandrin. By the Author of "A Dominican Artist," &c. London, &c.: Rivingtons.

One great advantage of a training in a Paris studio is that the pupils become inspired not merely by a selfish desire for their own individual success, but also, and sometimes in a stronger degree, they strive for the success of the master and of the studio, and in this way they imbibe early that *esprit de corps* which, as a principle, is almost unknown among English artists. Ingres at that time had especial reason to make the cause of his students his own. He was fighting the battle of his style, and the prejudice with which rival artists condemned his paintings was supposed to animate the minds of the judges in the public competitions in which his pupils took part. Hippolyte Flandrin was early marked out as one who was to sustain the credit of the school. In the *Concours de l'Académie*, some four or five months after his arrival, he obtained ninth place out of four hundred competitors, his brother having the thirteenth, a success which was rewarded by Ingres's returning half the studio fees, or twenty francs a month. Subsequently he should have obtained the medal for historical composition, but he was outvoted. Then in one of the last *concours* at the Academy, before entering for the *grand prix*, Hippolyte was pronounced to be first, but, as he says, "M. Gros and his party carried the day, and I was tossed out from being first to last," Ingres, in despair, protesting with all his might. "I did not dare go near M. Ingres," he continues, "and yet I had nothing to reproach myself with, my figure was much the best, and I may say without vanity. At last in the evening I resolved to go to him. I found him at the dinner table, but he could not eat. Several members of the Institute had come to comfort him, but he was a long way off that. He received me saying, 'Here is the lamb that has been butchered!' And then addressing his wife, who was trying to quiet him, he said, 'Oh, you have no idea how cruel and bitter injustice is to a young man's heart;' and all this was said with such a heart-felt manner that the tears were falling from my eyes. He made me sit down to dinner, and embraced me as a father his son." All this may appear over sentimental, according to our insular notions, but perhaps it might be better for the progress of art in England if artists occasionally displayed some little sympathy with the trials of those who are to be their successors. In the case of Flandrin there can be no doubt that he owed much of his success to Ingres's kindness of manner, and this he never failed to acknowledge. At the time of the final competition for the *grand prix*, he was so ill that he was prohibited from taking part in it; but day after day he used to drag himself painfully to the Academy, supported by his brother, work until he became exhausted, and retire to renew the contest the next day. "I must try," he said, "to justify M. Ingres's confidence by my picture; I must defend his doctrine and the credit of his school against men who are so prejudiced that even if they saw the truth they would not acknowledge it for fear of condemning themselves." Hippolyte Flandrin on this occasion won the *grand prix*, being the first pupil of Ingres who attained that honour; and at the same time his brother won the medal for historical landscape composition. According to Viscount Delaborde the success of the Flandrins was accepted as a victory over the old academic idealism as well as over the revolutionary tone of the new romantic school. Hippolyte Flandrin thus found himself for the moment the representative of a party. He returned to Lyons as soon as he could, to enjoy a well earned holiday, and after spending six weeks at home set out for Rome, his companions being M. Lévêil, who won the prize for architecture, and M. Ambroise Thomas, the winner of the musical prize and the future composer of "Caid" and "Hamlet." To the latter he was bound for the remainder of his life in close friendship.

Hippolyte Flandrin entered into residence in the Villa de Medici in the beginning of 1833, during the time Horace Vernet was director of the Academy. A few years before, when he was sketching soldiers and manoeuvres in Lyons, he would, without doubt, have thought it one of the highest of privileges to be allowed to live in the same house with the painter of the Algerian battle-pieces and see his method of working. Yet such was Flandrin's assimilation to the style of Ingres, that when he was offered the use of Vernet's own studio, although he appreciated the kindness, the director's paintings that lay around were so distasteful to him that, notwithstanding his power of self-denial, they prevented him from working. "It is so full," he wrote, "of his pictures and concerns, and in honest truth, those are so entirely different from what I want to do that I cannot stay there long, still less work there." His opinion of Vernet's works was that at first sight they strike one by a certain life about them, and by the clear simple way in which the action was expressed, but that when the details were examined they lost considerably.

However, they may want it in other ways, the studies at least of all men of true genius are guided by common sense, and Flandrin in those days was a student whose prudence and industry would have satisfied even Sir Joshua Reynolds himself. The President of our English Academy, in his grand way, used to recommend for imitation the practice of Philopemen, "one of the ablest generals of antiquity," whose mind was so intent on his profession that he could not walk abroad without turning all he saw into problems of strategy. It was in this manner that Flandrin acted. Unlike many of his *confrères*, his belief was that he was sent to Rome not to paint pictures but to acquire the power of painting them. To judge by what he says in his letters, as long as he was awake he was studying, and Rome he believed comprised everything to make an artist happy. As a matter of course, he copied much from the masterpieces in the galleries, and especially from Raphael, but the living figures around him—peasants in their picturesque attire, pilgrims, foreign monks and bishops, and the high Roman ecclesiastics—were no less objects of unceasing study. He always had a sketch-book in his pocket, and was continually entering the churches to make *croquis* of figures and ceremonies—it must be recorded, not without occasional compunctious visitings of conscience for his irreverence.

Nowhere used there to be seen such diversities of groups as in the streets and churches of Rome, and the letters show the continual delight with which Flandrin observed them. His spare time was given up to the study of Italian or to reading in Plutarch or other ancients from whom subjects might be drawn. The Academy allowance to students was 3,000 fr. a-year, and for one brought up like Flandrin this might be then thought ample. But 2,100 fr. were deducted for board and lodging, and the re-

mainder had to suffice not only for his personal expenses but for all outlay for canvasses, models, lights, fires in studio, and the like. Most of the other students were enabled to spend, in addition to their allowance, five or six hundred francs yearly on their pictures. Flandrin was not able to obtain as many models as he needed, and he was one of those artists who cannot get through much work without such aid.

The students of the French Academy are expected to send from time to time to Paris *envois* or works as evidence of their studies, and it was quite characteristic of Flandrin as a pupil of Ingres that his first *envoi* was a scene from the "Iliad." Ingres was rather disappointed with it, but it was painted amidst some impediments, not the least of which was a weakness in one of Flandrin's eyes. His second *envoi* was a scene from Dante, which won the second medal and was purchased by the town of Lyons for 3,500 fr. Afterwards he was commissioned to paint *St. Clair Restoring Sight to the Blind*, for the Cathedral of Nantes, which contained seventeen life-size figures, for which he received but a thousand francs, about the amount of the expenses. It was not from an undue estimate of his powers that he undertook subjects of this class. Ingres's teaching had given him a preference for them; but there was another motive, which is better described from one of his letters in words which are deserving of thought from all students. He writes:—

"One never shakes off pettiness of handling so well as when subject to a predominant thought. I think that ought to enable one to improve far more than aimless studies. To my mind, the more one asks the more one gets. Ask a great deal and you will get a little; ask but little and you get nothing."

The last of his Roman works was *Christ Blessing the Children*. On his return to Paris early in 1839 he sent it to the Salon. Ary Scheffer and Paul Delaroche, and other artists entitled to judge, admired it; but it was hung in the highest part of one of the galleries, with a window above it and another opposite it. Without asking Flandrin's price, the officials of the Bureau des Beaux-Arts fixed 3,000 francs as its value, and assigned the picture to the Musée of Lisieux, which at that time contained two pictures and three casts, and where it was never likely to lead to a commission. Flandrin and his friends were naturally indignant at this treatment, but he was advised to accept the price given by the Government, as otherwise his name would be removed from the list, and he would be thus deprived of official work. His first year as a professional artist did not therefore commence hopefully. In the course of the year he was commissioned to paint the walls of the Chapel of St. John, in Saint Severin, but he complains that no money would be advanced to him until the cartoons were complete, and then it was barely sufficient to meet the claims of the work-people. However, his success at this work enabled him to obtain the painting of the Great Hall of the Château of Dampierre, and this was followed by the commission for decorating the Sanctuary of Saint Germain des Prés, which occupied him from 1842 to the end of 1844, the choir and nave being later works. Flandrin, therefore, was one of those fortunate artists whose merits are early recognised. Having once made his mark, he had no longer any troubles from poverty. In the course of a few years his life must have been very happy. The family, it is true, was broken, for M. Flandrin died before he saw his son's success; and he was followed by the elder brother, Auguste, who would appear to have sacrificed talents equal to those of Paul or Hippolyte in order that he might be the mainstay of home. On the other hand, Hippolyte was married, Paul was living with him and co-operating in the mural paintings, and he was able to aid his mother. The following letter written by him gives a pleasant glimpse of the daily course of his life at the beginning of 1847:—

"This is how our winter days are past. Up at eight o'clock—not very early to be sure, but I must tell the truth. So—up at eight o'clock—quick, a cup of milk, and then we are in the studio till eleven, when real breakfast comes. At half-past eleven quickly back to the studio, where we work till five o'clock. Then by wolf's light (*entre chien et loup*) a run on the Quai Voltaire, if the weather permits, which it does not always. Dinner at six. In the middle of the repast the hair is brought in and takes his place between papa and mamma in his high chair. He coaxes us a great deal, eats a little, and amuses us endlessly. After that come games and rolling on the carpet, then he grows sleepy and is undressed, making his round of kisses, and so disappears. Father and uncle then set to work at drawings, compositions, reading, or writing connected with their work, till their time of getting sleepy comes too! Meanwhile, after her child's toilette, and after having mended stockings, gowns, and caps, my dear wife sometimes goes to the piano and practises for a bit, which is always a pleasure to us. And so my days go by."

In 1846 he was offered the decoration of the Church of Saint Vincent des Paul, the price being 200,000 francs, but as Ingres had before undertaken and then resigned the work, Flandrin, through loyalty to his old master, declined to accept it. Afterwards M. Picot obtained the commission, but before the work was commenced the Revolution of 1848 intervened, and it was taken from him and again offered to Flandrin, who, as might be expected, again declined the commission, "and it was only on Picot's own urgent representations that he would listen to any propositions on the subject, and even then he insisted on Picot taking part in the work as well as himself." Another work undertaken at this time was the decoration of the Church of St. Paul at Nîmes, and he was offered the decoration of Strasbourg Cathedral. He was in this way mainly occupied with church work until 1861, when the success of a couple of portraits made him fashionable, and, to his sincere regret, he was drawn within the vortex of the Imperial Court. "I have refused," he says, "at least one hundred and fifty portraits since the last exhibition; but there are certain princes, ministers, &c., who demand or command with a persistence that drives me to despair, and to whom I submit with so bad a grace that I am visibly dwindling away. *C'est fini*, I have ceased to be a painter! Farewell to study, and to that delightful hope of improvement which kindles all one's vigour and strength. This sort of good fortune crushes me, and I wish I knew how to get free from it, of which I have no hope." Again, in referring to a week he spent at Compiègne, he writes: "Their Majesties, really

courteous, treated their guests most kindly, and took pains to provide for their pleasure. We had *chasse à tir, à course* and *curée*, balls, plays, &c., but all that is not worth the good daily bread of work and one's own free studio and fireside!"

From this time forward there would seem to be no more complete works from Flandrin's hand. Besides other public duties he was on the Commission des Beaux-Arts of the Prefecture of the Seine, and on a Commission which had to advise the Government about the purchase of works from modern artists. A man of his temperament was not likely to discharge these offices perfunctorily, but it was at the sacrifice of his hours for painting. "Days, months fly by," he wrote in the Midsummer of 1863, "and soon a year, which has been all but lost as far as work is concerned, will be gone. My two last compositions for the nave of Saint Germain des Prés are not yet finished, and yet I do most earnestly desire to go to work at them again." But the time to complete them never arrived to him. He was never robust, and his constitution had been weakened by attacks of rheumatism produced through working in bleak churches, as well as by the worries incidental to his position. A residence in Rome of some months he supposed might not only restore his health, but develop his powers as a painter, and accordingly he left Paris with his family towards the end of 1863. His route lay through Nice, Mentone, Genoa, Pisa, and Siena, and in his letters he describes the scenery with the rapture of a traveller who sees it for the first time. When he arrived in Rome he could not rest until he saw again the French Academy, and in the dusk he showed the building to his wife and children. "I would fain," he wrote "have touched the walls within which I had been so happy, but there were people about the door whom I supposed to be students; I dipped my fingers in the fountain as if it were a *benitier*." With all the zest of his student days he visited galleries and churches, and there was some warrant for the expectation that his "homage to Rome" would be rewarded with restored health. But the plague of officialism pursued him, and might be said to have hunted him down. The Imperial Government had determined on certain innovations in the Academy and the Ecole des Beaux-Arts, and in the new organisation Flandrin was to be *chef d'atelier* in Paris. To his mind any alteration in the system under which he studied would bring a chaos, and did not hesitate to say so. The thought that his beloved Academy was to be destroyed to satisfy the whim of some *doctrinaire*, and that he was expected to become a participator in the act was more than he could endure, and sleepless nights deprived him of what little strength he had regained. He became restless through the unaccustomed leisure from work, and having refrained from painting for a few months he began to doubt if it were again possible for him to paint, and it is not difficult to understand that in such a state of mind his experiments to test this were not satisfactory. He was supposed to be painting a portrait of the Pope, of which much was expected, and the continual inquiries regarding it compelled him to assume a reserve that was foreign to his nature, and this added to his discomfort. It was arranged that when there was fine weather in the spring of 1864 he was to revisit Naples and Pompeii, but, as he wrote in his last letter, "the fine weather has come, but our plans have given way before my illness, and now everything is uncertain." The uncertainty did not last long. At first the illness was supposed to be no more than an aggravated form of what he had been enduring for many months, then an attack of small-pox supervened, and in the course of a week all was over. "The last words he uttered," says his biographer, "betoken how the faith which had moulded and strengthened his life now sustained and brightened his death-bed. 'I see the road a saint is leading me!' he whispered in faint accents shortly before his death; 'I see the road, it is made ready.' The body was borne back to Paris and laid in St. Germain des Prés, where the walls, incomplete as they are, form a noble monument for a painter who, to use the words spoken by M. Beulé at the funeral, "was revered by all opposing parties, who upheld the standard of the ideal and of religious art with a hand as modest as it was firm; and whose bright talent, always advancing, rising year by year to a more radiant height, seemed only as yet in its first bloom."

THE ORDNANCE SURVEY: A SAXON DEED.

THE Report of the Progress of the Ordnance Survey, by Sir Henry James, the Director-General, which has just been issued, is unusually interesting from the information which is supplied in it on the processes of photoincographing ancient documents, as practised in the offices of the Department at Southampton. The art of photoincography, which resembles photolithography, was discovered by Sir Henry James in 1860; and Her Majesty's Government were so strongly impressed with its value, that they immediately authorised him to undertake the production of a facsimile of "Domesday Book," which was commenced by publishing the part of it relating to Cornwall. The whole work has since been published; and it has been universally received as a most valuable contribution to the history of the kingdom; and the sale of copies has more than covered the costs of their production.

On the completion of the facsimile of "Domesday Book," the Government resolved to have facsimiles made of the most interesting national records, which would not only give the information, as it has been handed down, respecting important historical facts, but, the documents being arranged in chronological order, would show the changes which have been made in our language and in our writing during the lapse of time. A series of manuscripts, relating to England, was accordingly copied, commencing with the Charter of London by the Conqueror, and ending with the list-patch of Marlborough reporting the victory of Blenheim.

A series of documents, consisting chiefly of royal and other charters and important State papers, principally relating to Scotland, was next selected to be copied in facsimile. These were published in three volumes; and the demand for them has been so great that there is now great difficulty in obtaining copies of the work.

A series of Irish manuscripts was then selected to be copied, and will be published in three volumes. This series contains a selection from copies

of the Gospels, including some of the most interesting parts of the most beautiful work ever produced in this or any other country, viz., the "Book of Kells." Sir Henry James says the whole of this work should be copied. The cost would be 6,000*l*.

In pursuance of the original intention to publish a series of documents which would illustrate the changes in writing and language from the earliest times of which we have any authentic records, a copy of a Saxon charter by King Edgar is inserted in the Report as an example of the materials which we possess in abundance. This charter was exactly 900 years old last year, and its fine bold writing is perfectly preserved up to the present time. The body of the Charter is in Latin, and the description of the boundaries of the property is in Anglo-Saxon, the most familiar language of the time. As the form of so ancient a conveyance must be regarded with interest by antiquaries, we append the translation by Mr. W. Basevi Sanders, Assistant Keeper of Her Majesty's Records:—

(*Latin*.)

"Our Lord Jesus Christ reigneth for ever. It is advisable that every deed of gift should be made under the testimony of writing, lest the succession of posterity be swallowed in the whirlpool of rapine and the clouds of ignorance. Therefore I, Edgar, having by Divine Grace obtained the pre-eminence of royal rule over all Britain, being willing to endow with perpetual freedom a certain part of the country under my jurisdiction, do in reward of his devoted service grant unto Ælfhere my faithful minister three plots of ground [mansas] in the place which is called in common parlance Nymed, that he may hold it, as we have above said, in perpetual inheritance with all fields, woods, and meadows thereunto of right appertaining. Moreover the aforesaid land is to be free of all secular tribute and royal service excepting only going to the wars and the building of bridges or castles. Whosoever, therefore, moved by a benevolent and sincere disposition, shall trouble himself in amplifying this aforesaid grant, may the Parent of All increase and amplify his life in this present world and may he and all his family happily experience the unclouded joys of that everlasting one to come. But may they who shall diminish or unjustly violate the same, which God forbid should enter into the minds of the faithful, make part with those of whom on the other hand, it is pronounced 'Depart from me, ye wicked, into everlasting fire,' unless they shall have made lawful satisfaction beforehand. This said land appears to be enclosed about by these bounds."

(*Saxon*.)

"This is the land-meer of the three hides at Nymed. First to Copelanstun [the stone of Copela]; from that stone westward on to the high road at Eisandune; then therefrom westward to the high road at Red Flood; therefrom to Sedgbrook's head; therefrom down Sedgbrook to where the lake [stream] strikes west; therefrom out on Heathfield to the gutter head; from the gutter down on Hane; therefrom adown along stream to where Rushbrook strikes on Nymed; therefrom eastward on Rushbrook to Shipbrook; then up Shipbrook and so back to Copelanstun."

(*Latin*.)

"Moreover this aforesaid grant was made in the year of the Incarnation of our Lord DCCCCLXXXIII. In the second Indiction. These are the witnesses of this grant whose names are here written.

- + I, EDGAR, King, have confirmed the aforesaid grant.
- + I, DUNSTAN, Archbishop of Canterbury, have corroborated it.
- + I, OSWALD, Archbishop of York, have strengthened it.
- + I, ÆLFTHRYTH, Queen, have consented.
- + I, ÆLFHERA, Duke.
- + I, ÆTHELWINE, Duke."

Here follow the signatures of several Bishops, Abbots, and Ministers.

The deed is endorsed in Latin and Saxon:—

(*Saxon*.)

Copulastane's deed.

"This is the deed of the three hides at Nymed, which King Edgar bestowed upon Ælfhere his thane in perpetual inheritance."

(*Latin*.)

"This is the charter of the land which is called Copulastan, which the reverend priest Brihtic gave for the relief of his soul and the souls of his parents to the Monastery of Saint Mary, which is in Crydiastun, for the maintenance of the canons serving God therein. If any one therefore shall take it away from the aforesaid place, or in anywise diminish it, may he be stricken with a perpetual curse and perish everlastingly with the Devil unless he strive by due reparation to make atonement."

The property conveyed now belongs to several proprietors.

IRON ARCHED BRIDGES.

AT the last Sessional meeting of the Edinburgh and Leith Engineers' Society, the President, Professor Fleeming Jenkin, read a Paper on metal arches. He began by explaining the stresses which occurred in the common masonry arch, illustrating the subject by means of a wooden model of novel description, having each voussoir carved so as to render the arch flexible. It was explained that in Papers by Professor Clerk Maxwell, Mr. Bell, and Professor Fuller, of Belfast, methods were given by which the maximum intensity of stress on each part of a metal rib could now be determined with as great accuracy as the stress on the ordinary girders; and Professor Jenkin expressed a strong opinion that the great bridges of the future would be metal arches, which for great spans were essentially more economical than beams, while they also were more beautiful. In illustration, the Bridge of St. Louis, at Cincinnati, was referred to, with a central arch of 520 feet in span. There was no reason why arches of 700 or 800 feet span should not be erected, and in some situations even these great spans would be economical in comparison with a number of smaller openings involving expensive foundations.

ILLUSTRATIONS.

DESIGNS FOR A LONDON RESIDENCE. SOANE MEDALLION COMPETITION.

THE two designs we publish this week were submitted in the late competition for the Soane Medallion, one by Mr. A. T. TAYLOR, of Oakley Road, Islington, and the other by Mr. A. HILL, of Cork. Both designers have interpreted the conditions issued from the Institute as prescribing that the narrow end of the site was to show the principal frontage.

NEW FOREST EXHIBITION.

WE would draw our readers' attention to the exhibition, which, under the above title, is now open in Regent Street, and deserves a visit on account of its especial character and aim. The subjects of the water-colour studies, chalks, and oil pictures here hung are all drawn from the New Forest, that sweetest woodland sketching ground and summer place of pastime in all England. The Department of Woods and Forests threaten to enclose this inheritance of the people; already bit by bit private proprietors, dwelling within the forest grounds, have been allowed to widen the borders of their acreage, and encroach on the common land; already trees that are unique for size and beauty have been felled; and now, if a great protest be not made, the New Forest will be enclosed, and one more breathing space in our overbuilt, overcrowded country will be gone, and toiling brains and the artist hands will be robbed of yet another region of refreshment and delight from out of the fast diminishing numbers.

As one means of rousing public feeling during the sitting of the Select Committee of Inquiry into the enclosure of the forest, and thereby to bring about its rescue from the hands of the spoilers, this little exhibition has been organised by certain public spirited men. Here are sketches by Frederick Tayler, fresh and true and delicate; studies by W. Bennett; a striking composition, in oil, by Branwhite; a fine and carefully studied picture by Edmund Warren of the beech trees that grow, as they do nowhere else, in the forest glades. By George Chester also are two broad and well grouped compositions, full of the especial character of the ground. Amateurs and artists swell the collection. A folio of pen and ink studies by Walter Crane, for the illustrations to Wise's delightful book about the forest, may be looked through. One whole screen, together with space on the walls, is devoted to the sketches and studies made by Mr. W. Kämpel, a German artist long resident among us. This gentleman has known and loved the forest till every beechen glade and heathery knoll, fairy nook and breezy fireclad upland is familiar to him, and "out of the fullness of the heart" his hand has painted. These broad and truthful studies tell how faithfully he has worked: especially good are *Summer, Ridley Wood*; *View over open Ground between Burley and Christchurch*; *Grand Old Relics, Bratly Wood*; *Luxurious Foliage, Mark Ash*; and, on the wall, *Afternoon, Mark Ash*, a finished and studious drawing. In the vestibule are some pencil drawings by the German artist Trantscholdt, chiefly minute studies of tree branching, wonderful for accurate detail and delicate execution, though not artistically pleasing.

Petitions of protest are in the Gallery for signature, and we trust that many names may be added to the goodly list already in existence.

BENJAMIN R. HAYDON AND THE SCHOOLS OF DESIGN.

THE Archbishop of Canterbury having, in his speech at the Royal Academy Banquet, attributed to the late Prince Consort the merit of establishing schools of design throughout the country, Mr. F. W. Haydon, as a son of the unfortunate artist, Benjamin Robert Haydon, has written to him saying that this was doing an injustice to the painter's memory. Without the least desire to depreciate the undoubtedly high services of Prince Albert to the cause of art in this country, Mr. F. W. Haydon points out that his Royal Highness did not settle in this country until 1840, and, according to his published "Life," took no active part in the art affairs of England before his appointment by Her Majesty to the head of the Royal Fine Arts Commission of 1842, the duties of which were mainly confined to the consideration of the mode of decoration projected by Mr. Haydon for the new Houses of Parliament. For thirty years and upwards previous to the settlement of Prince Albert in this country, Mr. Haydon had never ceased from striving to demonstrate the value of art as an element of national education and as a source of national glory, and the intimate connection between arts and manufactures, and the lamentable want of means of sound instruction in design in this country as compared with her neighbours. Between 1809 and 1840, as appears by his private papers, he was constant and unceasing in his efforts to get the Government to do two things—viz., give public employment to artists on public works of decoration, and to found schools of design in London and the provinces; the London school to be the centre on which the others relied, the mode of instruction in all to be the same for artist, artisan, and amateur—viz., the study of the human form, then ornamentation, painting

or design, as the case might be. To effect his object, Mr. Haydon used many channels. In addition to his professional efforts, he besought Ministers, he petitioned Parliament, he appealed to the nobility, and he addressed the public through the Press.

At length, in 1832, the subject of our inferiority in design was spoken of in Parliament, and the result was the establishment by Lord Melbourne's administration of a normal school in London to give instruction in pattern drawing only to designers for manufactures, but without reference to fine art, the foundation of all design. This did not satisfy Mr. Haydon. He maintained that all decorative art was based on fine art, and that every student of design for manufacture should be compelled to draw for the first twelve months from the antique. But he failed to induce Lord Melbourne either to accept his views or his larger scheme for provincial schools of design, and he did not succeed in persuading Mr. Poulett-Thompson, President of the Board of Trade, to enforce the better system of instruction in the new London school. "What is the use," said Mr. Poulett-Thompson, "of teaching the figure to fellows who design screens?" This separation, under official authority, between the instruction of the artist and of the manufacturing designer appeared to Mr. Haydon so fatal in principle, and so injurious to our manufacturers, that he resolved to defeat its further extension. He had been for some time previous in communication with Lord Melbourne and Mr. Ewart, M.P., with the view to obtain a select committee of inquiry "into the best means of extending a knowledge of the arts and of principles of design among the people." This select committee was granted to Mr. Ewart in the Session of 1835. In order to aid the committee in its labours next Session, Mr. Haydon undertook to deliver in London that winter a series of lectures on painting and design. He made his first appearance as a public lecturer on September 8, 1835, and he continued from time to time to lecture in London up to the end of 1836. During the Session of 1836 Mr. Haydon was examined at great length by Mr. Ewart's committee, and in his evidence he stated his plan for a general system of schools of design throughout the country. It was this plan the committee adopted in their report. Still failing to induce the Government to adopt his plan, or Mr. Poulett-Thompson to amend the system of instruction to students at the London Government School of Design, Mr. Haydon resolved to endeavour to carry out his own plan for the provinces single-handed. Before leaving London, he visited the Government School of Design, and wrote a characteristic letter to Mr. Poulett-Thompson, which gives some notion of how matters stood between Mr. Haydon and the Government at that date:—

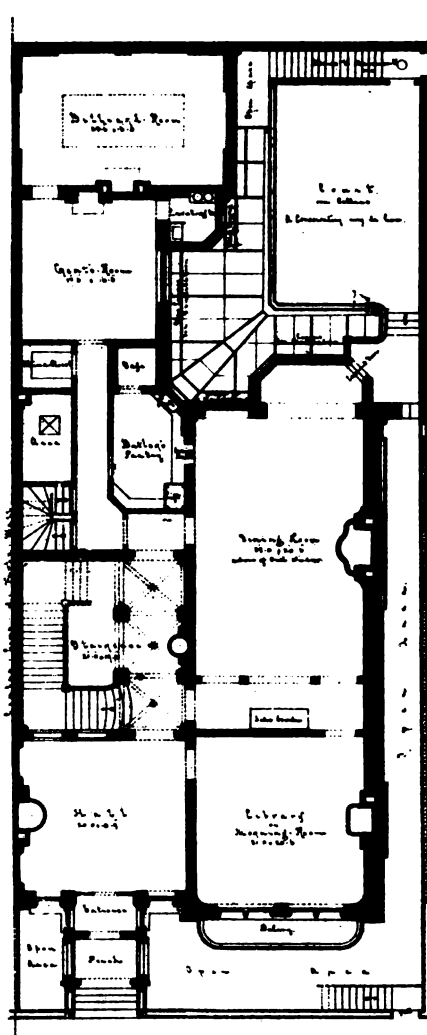
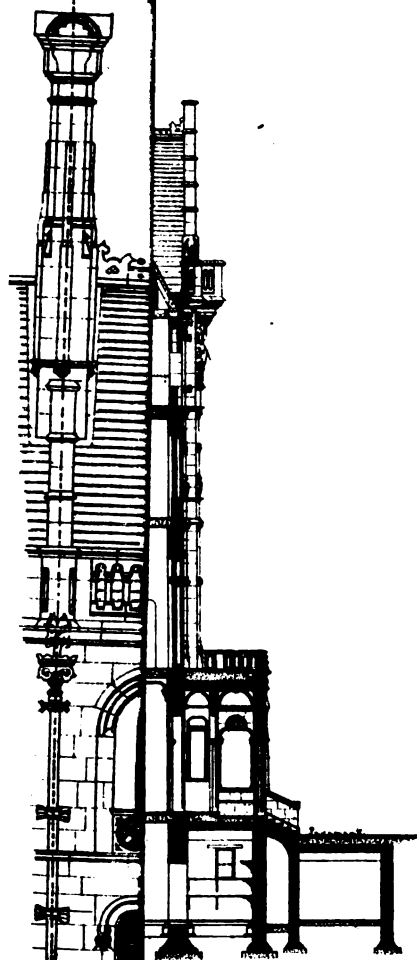
"My dear Sir,—I yesterday visited your Government School of Design. Oh! Mr. Thompson, what an exhibition! Nine poor boys drawing paltry patterns; no figures, no beautiful forms. And is this the school of design the Government of Great Britain has founded in its capital? I felt my cheeks crimson. However, persevere till your eyes are opened and the public voice compels you to attend to the truth. You were kind enough to say to me at our last interview, 'Your talents are acknowledged;' but, was art understood by you as well as politics and commerce, I should have been understood by you, and you would have felt convinced my principle for a school of design for the mechanic was the true one. But you are all at the mercy of —, and ever will be until you have schools of art and design at the Universities, and if God spare my life twenty years you shall have them, as you will soon have them in all the great towns."

In the month of April, 1837, Mr. Haydon left London for Edinburgh and Glasgow, where he lectured with great success, and, crossing the Border, he began that career as a lecturer in the provinces which occupied him, more or less, for the four following years. He gave lectures to crowded audiences at Manchester, Liverpool, Leeds, Sheffield, Hull, Newcastle, Leicester, &c., and met with an enthusiastic reception whenever and wherever he appeared.

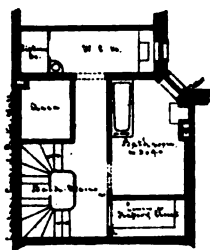
The Philosophical Society of Edinburgh entertained Mr. Haydon at a public dinner as a mark of their respect for his exertions in the cause of art and design. In all these great towns Mr. Haydon got the formation of local schools of design commenced. The Board of Trade exhibited a strong disposition to thwart his efforts. They wrote to Manchester to discountenance the project of a school for Manchester, as "wholly unnecessary," and it would appear they did the same in other towns. Nevertheless, by 1842, Mr. Haydon had succeeded in his special object—that of establishing schools of design in our chief provincial towns, and upon his own principles. On the arrival of Mr. Gladstone at the Board of Trade the necessary reform in the mode of instruction in the London school was, Mr. F. W. Haydon believes, promptly effected.

Indeed, it may be fairly said of Mr. Haydon that he passed his whole life from 1804 to 1842 in one persevering struggle to bring the authorities to believe in the value and utility of art and design as a matter of national concern, and as a subject of the highest value and importance to our manufactures. All his petitions to Parliament and memoranda to ministers bear strongly upon this point. The late Mr. Cobden, who was closely associated with him in his efforts to establish the School of Design at Manchester (1837-8), said to Mr. F. W. Haydon a few months before his own death, "If your father had his deserts he would have a statue of gold raised to him in every manufacturing town in this kingdom for the good he has done our manufactures by his schools of design." Wordsworth, at Christmas, 1848, expressed very much the same high opinion. Yet, after forty years of arduous labour, Mr. Haydon died broken-hearted by pecuniary distress, and his reward is apparently to be ignored by every public speaker who now discusses the one chief subject of his life and labours. In conclusion, Mr. F. W. Haydon says that he does feel, under all the circumstances, that, when the subject is now referred to in public, the name of his father ought not in fairness to be omitted.

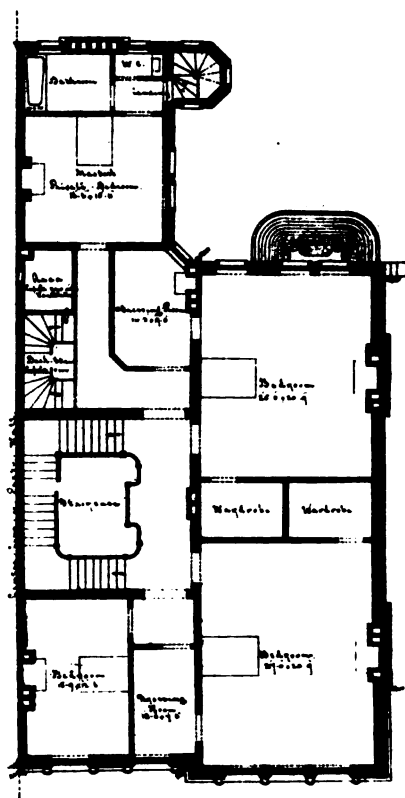
The Archbishop, in reply, says:—"I have read with great interest your letter of the 7th inst., and regret that the remarks which I made at the Royal Academy on the subject of the schools of design and their obligation to the Prince Consort should seem to you to have done injustice to the labours of your father. It appears to me that it is only due to your father's memory that you should call public attention to the circumstances which you have made known to me in your letter."



PLAN OF GROUND FLOOR



PLAN OF GROUND FLOOR (DETAIL)

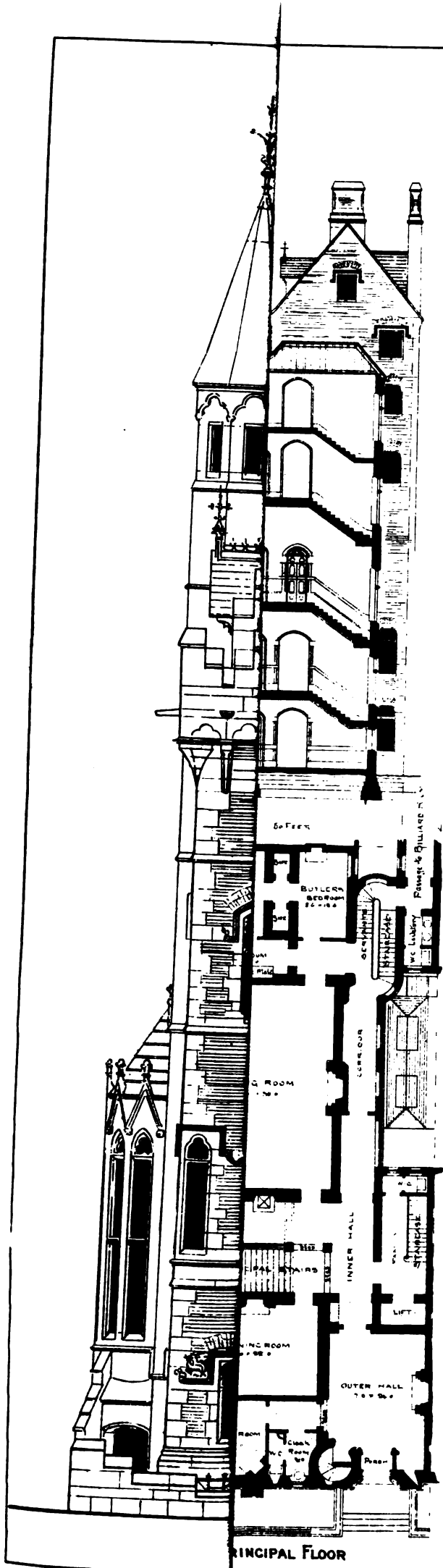


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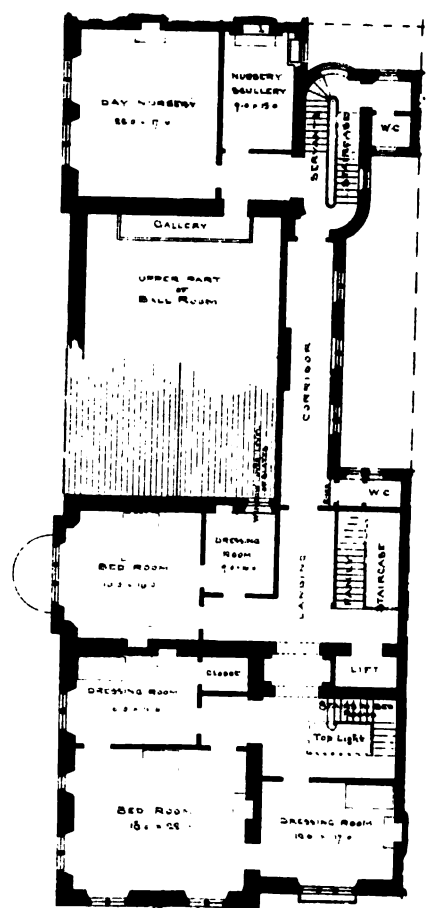
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ETITION.)

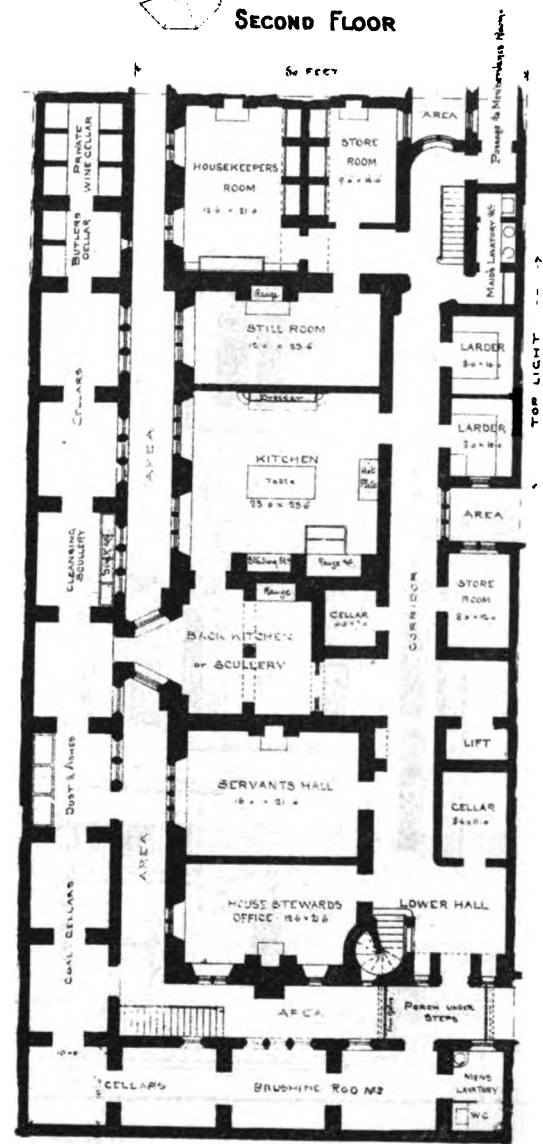




PRINCIPAL FLOOR



SECOND FLOOR



BASEMENT

ETITION.)

Patented by W.W. Sparrow & Co. London E.C.



ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AN ordinary general meeting was held on Monday evening, Sir G. Gilbert Scott, R.A., President, in the chair. Several donations to the library were announced, and the President stated that Mr. Edmund Sharpe had bought up the remaining copies of his work on the churches of Sussex, and had authorised a disposal of the same among the members of the Institute. The work was originally published at 31s. 6d., but copies would now be available at 5s. each, the proceeds to be appropriated to a prize fund, and to be applied as the Council might direct. The members of the Architectural Association would also be at liberty to purchase the work at 5s. a copy to the extent of 80 copies. A special vote of thanks to Mr. Sharpe for his gift was accorded.

A ballot took place for the election, as Fellow, of Mr. W. Parslow, 31 North John Street, Liverpool; and, as Associates, of Mr. John Clarke, 31 North John Street, Liverpool; Mr. James Neale (Pugin student, 1875), of Manchester Street, W.; Mr. S. J. Newman, of Swan Yard Chambers, Northampton; and Mr. John Haigh Robinson, of Newcastle-on-Tyne. They were all duly elected.

Mr. T. Roger Smith, Fellow, then read a Paper on

New Materials and Recent Inventions Connected with Building.

The subject I have the honour of introducing to your notice to-night is necessarily full of details, and when once we have plunged into these it is not likely we shall be able to quit them for generalities. I therefore ask you to permit me to lay before you such general considerations as seem to belong to it now at the outset, rather than to reserve them till the close of the Paper.

The first remark that will occur to most observant men is, that the building art, as conducted in England at the present day, presents fewer novelties than almost any others of the leading technic processes. Steam, electricity, and the progress of mechanical inventions and chemical research have revolutionised most of the great divisions of human industry. Sometimes it is a new method of manufacture which has supplanted an old one—the material remaining unchanged. Sometimes the old material has given way to a new one, and not unfrequently both material and method are alike revolutionised by discoveries made through that restless and eager spirit of inquiry and invention which is perhaps the chief glory of the present century.

For examples of new methods of employing old materials, we may turn to the principal fabrics used in clothing. Wool, flax, cotton, and silk are what they always were; but spinning, weaving, dyeing, and ornamenting, which once were handicrafts, are now mechanical processes carried on by steam machinery in vast factories. Printing is another example of the same change; paper, ink, and type are still employed, but the contrast between the hand press—which within the recollection of many of us was the only method in use—and one of Mr. Hoe's magnificent steam machines is enormous.

Of new materials which have supplanted or supplemented old ones, a very long list could be made out. One or two will suffice for the purposes of an illustration. Various grasses and other substances have now come into use either along with linen rags or as a substitute for them in the manufacture of paper. Stearine and various similar products have almost displaced wax, spermaceti, and even tallow as material for candles. Mineral oil has largely displaced fish oil. We are using stamped and printed paper for window curtains, and printed cloth for embroideries, German silver instead of plate, and papier mâché in place of wood; and in a hundred other instances the craftsman has a constantly increasing series of new substances placed within his reach by the scientific discoverer.

The most remarkable cases of all are, of course, those where material and method are both alike new, having either been called into being to supply some new want, or else presenting themselves with such capacities for being useful or pleasant inherent in them, that a want has sprung up, after the power of supplying it was acquired. All the applications of photography, of the electric telegraph, of the spectroscope, and of our amazingly enlarged chemical knowledge, seem to belong to this head. Till we knew we could have them our wildest dreams never led us to desire such things as photographs of our friends, or telegraphs from them when at the antipodes; and such contrivances as the sewing machine, such materials as gutta serena, or such inventions as the locomotive, have brought into existence a whole range of new requirements, which the world had never dreamed of till the power of supplying them was called into existence.

Building, compared with such matters as locomotion, the manufacture of clothing, or the transmission of intelligence, is an art which has changed wonderfully little, so little indeed that I am sometimes tempted to believe that there still remains open to some inventive genius among ourselves, the possibility of effecting something like the revolution which Arkwright commenced for textile fabrics, when he applied steam-power to spinning. It is, of course, natural to say that it cannot be done; but the same thing might have been said beforehand of all the great steps which handicrafts have taken, and we might, I believe, do worse than entertain very seriously indeed the possibility of adapting machinery, mechanical processes, and novel combinations of material to building, on such a scale and in such a way as to cheapen the cost of simple plain structures to a great extent. This subject would land us at once in a region of speculations which might prove of practical advantage, and to us I confess the subject is tempting in the extreme, but I have not any intention of inviting you to pursue it to-night. If, however, a wholesale transformation, such for example as would be effected were we prepared to abandon brickwork for concrete, and slates for felt, is not within our reach, there are available for use no small number of inventions, in which the progress of contrivances and discovery has told upon the resources at the builder's disposal; and it is some of these which we are to consider to-night.

Granted then that there exist a certain number of novelties, my second preliminary observations must be directed to the position which the architect ought to take with regard to them. This is a question which has two sides. It may be said that the architect as the skilled, cultivated, and trained director of the work, is bound to know what is going on, to make himself familiar with the latest improvements, and to give his clients the benefit of his knowledge; in short, he is to be abreast of the building art in his own day, and is to show that he is solely making himself acquainted with each capital invention as it comes out, and to embrace every opportunity of using it. This is a position which has much to be said in its favour. And if men expect their doctors to know the latest medicines, and their lawyer to be acquainted with the most recent legislation, they may be excused if they ask that their architect shall be equally well posted. If, however, you ask your medical man whether if some new remedy of which you have heard is not said to suit your symptoms, he will probably reply: "Yes, but I doubt whether it would suit your constitution; the reports of its action are by no means uniform or complete, and if you take it you will be trying an experiment." Your solicitor when you ask him to take proceedings under some new Act will, if he be prudent and honest, reply: "True, the language of the Act seems to fit the case, but it has not yet been tested before the Courts, and your case will be the one to fix the interpretation upon the language if you proceed under this Act; better be cautious."

In both instances the professional man, if he had no duties to his client, would be delighted at the opportunity of contributing to the fabric of professional experience an item possibly of much importance; the expense or distress of the process being borne by the vile body—or purse—of his client. But if he is true to that maxim of professional conduct—which I take to be a sound one, so long as it does not carry a man beyond the limits of honour and good faith—"do the best you can for your client"—the experiment is left for some one else to try, while better known and safer methods, supposing such to exist, are adopted, even if they be less brilliant. This I hold illustrates an architect's true position in regard to new inventions. He ought to make himself familiar with them all; he ought to neglect no advantage offered by them; but he has no business to try experiments at a client's expense. If this be true there are only three conditions under which an architect is at liberty to adopt a novelty. First—If it has been in some way put beyond doubt that the novelty will succeed; Second—If it is certain that received methods will not succeed, and the novelty offers a better chance; Thirdly—If the client, knowing that there is the possibility of failure, decides that the novelty shall be tried.

It may be said that these conditions very much limit the adoption of new inventions, and no doubt they do so; but I hold that our first duty as architects is to secure that our buildings shall answer their purpose, and that trying experiments in them is not justifiable except under conditions which either render failure impossible, or at least shift the entire responsibility on to other shoulders.

It now only remains to guard you and the readers of this Paper against any misconception as to its nature and scope. I do not claim to have hunted up and named all the inventions worth notice brought forward during the past few years. Still less do I claim to have selected the best. I shall not attempt to do more than to point out the directions in which invention has been chiefly exercised, and to give under each head a few specimens, selected not as the best but as the most convenient illustrations. The subject, thus looked at, seems to divide itself into (1) new materials, (2) new methods, (3) new structures, and (4) new appliances. New materials may include revived ones, and applications of known materials to new purposes. New methods refer to new modes of working, chiefly to the substitution of machinery for manual labour. New structures, hardly perhaps, need explanation, but must, of course, be understood as applying to structures of hitherto unknown sorts, and which from their novel nature are essentially new inventions; or new introductions. New contrivances will embrace those appliances which form portions of our buildings, such as lifts, bells, or cooking apparatus; and also will include some few new combinations of building materials for special purposes.

New or Revived Materials.—Of these the most important by far are iron and glass. The modern application of both to building has been well known to us now for a quarter of a century; in fact, ever since the Exhibition of 1851 showed how rapidly and cheaply vast structures of iron and glass (the iron-work being chiefly cast) could be erected, and how great a charm they possessed; and the applications of these materials have been numerous and varied. The leading principle upon which that building depended, and to which it owed both its architectural quality and its constructional success was the continued repetition of a small number of well-considered forms. Every pane of glass was of one size, and so upwards as far as possible. Every column was of the same length, and every girder was of the same span. This principle was adhered to in the design of the Sydenham Crystal Palace, but it has been in some other instances overlooked.

An iron and glass building is no doubt not a very durable one, nor very weather-tight, and the expense of its maintenance will be considerable; but nothing is in first cost so cheap, and for the purpose of large gatherings of people, nothing so appropriate.

Treated in a different way, iron ribs, carrying some light filling in, which may be glass or wood, have enabled us, when we enclose enormous spaces in a more permanent manner, to roof them over. The great railway sheds, and such buildings as the Agricultural Hall, the British Museum reading-room, and the Albert Hall are examples of buildings having iron roofs of prodigious span. These are buildings such as, from time to time, come within the ordinary scope of an architect's practice. It is very desirable for us to obtain a familiarity with the principles upon which these roofs are constructed, as although it may be very wise to obtain upon them the assistance of an engineer, whose whole time is spent in working out the details of iron work, the architect will find that he is at a great advantage if he can design their general forms himself. All these applications of iron as a building material seem, however, to shrink into insignificance

before Mr. Scott Russell's Vienna cone; but this has been so recently described here by the inventor himself that I need not do more than refer to it.

Other applications of iron to construction are so familiar that I shall hardly be justified in referring to many of them among new inventions. I may, however, allude to Phillips's girders, as a contrivance which is still tolerably new. These are built up, as you are aware, by bolting two rolled iron joists together, and sometimes four such joists are combined with plates, in addition to their own flanges, into one large beam. It is not easy to see the scientific ground upon which this combination (which places a very large amount of material comparatively near the neutral axis of the beam) can be advocated, but there is obviously a good deal of simplicity and handiness in the combination, and it is said to have good practical qualities.

Messrs. Moreland & Son, who are well known as skilled in the application of iron to building purposes, have contrived a description of fire-proof construction, in which they imbed a kind of slight bow string truss in the concrete, which they fill in between large girders. This construction is so far different from ordinary fire-proofing as to deserve to be mentioned. It was employed at the St. Pancras Hotel, and appeared to me, when I saw it being fixed there, to offer considerable advantages.

The next material which I propose to notice is one which has but recently been introduced, and may fairly, on that account, lay claim to the title of a perfectly new invention. I refer to selenitic mortar, the invention of General Scott. This mixture I shall, I believe, correctly describe if I say that it consists of the ordinary ingredients of mortar—namely, lime and sand, though the sand is in larger proportions than usual, with the additions of a small quantity of gypsum (sulphate of lime), very intimately mixed with the lime. This mortar requires to be mixed in a pug-mill very thoroughly, and when carefully prepared, will be found to have acquired, to some extent, the properties of a cement, for it sets rapidly, and when set it is extremely hard and tenacious. It is to the admixture of the gypsum that the rapid setting is due, but perhaps some of the general excellence of the material may be owing to its having been better mixed than usual. The Albert Hall was the first large building in which this material was employed; and while that hall was in course of erection I had repeated opportunities of noticing its admirable behaviour. The London School Board have lately adopted it throughout their new buildings, and probably their architects may have met with varying results, considering the various builders who have worked for them; but there can, I think, be no doubt that, on a building of any magnitude and under proper supervision, selenitic mortar will be found to be a trustworthy auxiliary to the architect. Of the use of the same material for plastering I cannot speak so fully.

The adaptation of concrete to building walls, floors and roofs, as well as the foundations, may fairly claim a moment's notice. Tall and Drake are two names best known in connection with it. As far as I am aware the use of lime concrete, which involves walls, &c., of considerable thickness, has not been much pushed. Portland cement concrete, a stronger material, capable of being used on thin walls, and having the property of hardening very rapidly, is more commonly employed. The different patents have for their object, when walls are to be built, the construction of troughs by the help of frames and movable boards or shutters. These troughs are the exact size of the wall, and the concrete is filled into them. When the material has set the trough is taken to pieces, refixed at a higher level, and the process is repeated. I am not disposed to believe that much economy results from building in concrete, except where the work is very plain and straightforward, and when little is spent on subsequent finish; but there can be no doubt that a wonderfully strong and tenacious material is obtained; and probably where the foundation is unquestionable, the materials good, and the supervision during the progress of the work thorough, a stronger building is erected—and one more proof against attacks of weather than if brick were employed—and at a not greater expense.

Allied to concrete is artificial stone, and this, with the various panacea for arresting the decay of building stones, has of late retreated to some extent from the public view. It is happily very difficult indeed to make bad stone into good, and consequently most of the solutions and washes which have that for their object have proved unsuccessful. Not that there are not many of them which have a sound scientific basis, but the difference is very great between treating a specimen of stone in the course of a well-arranged laboratory experiment, and treating similar stone, built into a wall, perhaps saturated with wet, and exposed to all vicissitudes of weather, in the rough way in which, on a scaffold, even careful workmen will apply, what they call chemical stuff; and we cannot wonder that solutions, which are theoretically excellent, have often in practice failed to protect masonry. The artificial stone of Mr. Ransome is, I think, the only material called artificial stone which has held its ground; and I believe that under his more recent patents an excellent and durable substance has been produced, but in many cases, not at such a price as has enabled it to displace natural stone for plain work. Where elaborate work, such as would admit of being produced in a mould, has been required, this material has, I am informed, proved both economical and satisfactory.

Another material which (while it is incorrect to call it a substitute for stone) can often be adopted as an alternative material, is that very old form of brick, known as terra cotta, the use of which has revived to such an extent as to stimulate the manufacture. Although terra cotta is not a new material in one sense, it is so in another, for it is only very recently that it has become possible to obtain it in such quantities, and of such varied quality, that it could be readily adopted by the English architect. He who would employ terra cotta must submit to a certain amount of limitation; he cannot deal with it as freely as he can with masonry. He must design his ornament long beforehand; he must, if possible, arrange for a large amount of repetition; he must so design his work that, if slightly warped in burning, the effect shall not be entirely spoilt; he must prepare for delay and trouble, and he, or some one for him, must draw out all profiles, &c., to a sufficient scale to allow for their shrinkage. But

subject to these and other minor conditions terra cotta is an admirable material. When used in large quantities it is cheap, it is very durable, it can be obtained of beautiful colour and texture, it is the most appropriate material to employ along with brick, and it admits of the introduction of great richness, and of the indefinite multiplication of a few pieces of artistically modelled work. It is to be hoped that the Natural History Museum, where Mr. Waterhouse is employing it on an extensive scale, will give a great stimulus to its use. In the various buildings of the department at South Kensington and in the Albert Hall, terra cotta has been extensively employed; and Mr. Barry's Dulwich College, and Mr. Christian's Insurance Office in Bridge Street, may be pointed to as other examples of its use.

Bricks themselves, and tiles have not furnished of late years many really new inventions. The damp courses, air bricks, shaped facing bricks, and roofing tiles of the ingenious Mr. John Tayler are, I have no doubt, known to all present. I do not recollect any other varieties of brick requiring mention here till we come to Pether's ornamental bricks, a variety available for use in surface decoration. These bricks have a pattern impressed on them, and being made of fine clay and well executed, have been often introduced lately into decorative work, and might with great advantage be more generally employed, as architects could readily design ornament appropriate to them.

The various sorts of flooring and encaustic tiles are no longer new, indeed they present one of the best possible examples of a new building material becoming generally so adopted as in a few years to grow perfectly familiar. A tile of German manufacture was, however, introduced into this country a short time ago which has not yet become very generally known, it is in large slabs, and rather delicate tones of colour seem preferred, though very elaborate decorations have been executed in it.

A comparatively new mode of employing tiles for the lining of rooms has been introduced by Messrs. Simpson, who have decorated the interior of many parts of Messrs. Spiers & Pond's "Criterion," in this manner. The tiles are placed together in their unglazed state, and a picture is painted upon them in suitable colours for firing. They are then taken asunder and put into the furnace, and then subjected to great heat and glazed. If this is successfully accomplished, the tiles can now be fixed against the wall of the room and present an absolutely indestructible decoration, which can be washed as often as it is needed, though from its high glaze it is not easily apt to catch dirt.

Mosaic—the most ancient of all the arts of decoration—has a claim to be named among the revived processes if not admissible as a new one. I shall not attempt to describe Salvati's most praiseworthy revival of glass mosaic, which has placed in the hands of our architects a method of executing surface decoration which, ancient though it be, is, I think, really new to Great Britain in its application to vaults such as the Wolsey Chapel, at Windsor, or the vault of the Albert Memorial.

Other descriptions of mosaic, however, especially tile mosaics, if less sumptuous, are less out of reach, on the score of cost, and deserve our notice as affording a means of executing original decorative work at a distance from the eye as well as near. The ornamental frieze round the galleries of the Albert Hall, executed in tesserae of about an inch square, is a good example. Here only two or three tints of colour were employed, and the mosaics were rapidly made, after the full size cartoon had once been completed, by placing the tesserae on a tracing to a portion of the cartoon till a space of a certain size had been covered (about six superficial feet, I think) and then upon the back of the tesserae Portland cement was applied till a stout slab was formed which admitted of being handled readily and could be hoisted up and fixed in place.

Another description of work approaching mosaic has been lately introduced to London, and is obtainable of Mr. Burke, of Regent Street—I allude to marble mosaic. This work is executed to a large extent out of smallish irregularly-shaped fragments of the material, of two or three tints, so laid as to produce the general appearance of a mottled ground, which gives relief to a few portions of brighter colours executed in more valuable marbles. When well done this sort of mosaic is very effective; it can be obtained at a very moderate price, and it may be expected to prove extremely durable.

We will now proceed to consider for a few moments the second head—new methods—not because the list of materials is exhausted, far from it; but because enough has been said to carry out my promise that I would name a few as specimens of the whole, in the hope that in the discussion your own sources of information will enable you to enlarge my list.

New methods need not detain us long. The building trade has not been revolutionised by the introduction of machinery as other trades have been, and it is really only in one or two of its branches that anything approaching to innovation awaits us. A remarkable attempt to introduce machinery into this production of high art work was made when the machines by which the woodwork of the Houses of Parliament was roughed out were designed. These, I believe, are now in the possession of Messrs. Cox & Son, and are still worked by them; but from various circumstances they do not seem to have become generally known or copied.

Machinery for dressing stone has been again and again attempted, and has been employed with considerable success. The contractor for St. Thomas's Hospital had a series of machines at work, partly employed in sawing up the stone and partly in dressing it; and one or two stone-dressing yards exist, or did lately exist, where plain descriptions of work are performed by mechanical means. The action of such machines is, generally speaking, that they bring a series of chisels, or tools answering to chisels, forcibly down upon the stone so as to imitate the action of a mason at many points at the same time. Usually the chisels are carried on the periphery of a wheel, though different arrangements are adapted by different inventors. Probably sawing can be done better by machinery than by hand, as well as cheaper. The plain dressing of surfaces, and even the moulding of them, is within the reach of machinery, but it is doubtful if it will be so well executed as a good mason would do it, especially if the stone operated upon were of uneven or unequal texture, and the more

elaborate the work or the fewer the repetitions, the less advantage, generally speaking, can be expected from the machine.

Joiners' work admits of the application of machinery to a larger extent than masons' work, chiefly, if not solely, because it includes so much more repetition. In a first-class joiner's shop you now find a very interesting and complete series of machines, which render it possible to diminish the labour on joinery very largely. It is hardly necessary to describe these inventions at length; they may be seen at work in the establishments of our large builders, and no one who has watched their operation can doubt their efficiency in all ordinary work.

Here, perhaps, I may most appropriately introduce a reference to the contrivances for testing materials, which supply us with information as to their strength and behaviour under different kinds of strain. We have now in Mr. Kirkaldy's large and accurate machine a testing engine of a power practically unlimited, and accurate to the extent of making single pounds of pressure, while it will admit specimens as large as forty feet in length. Here then we have a means of investigating the strength of building materials such as has not been previously at our disposal, and we have only ourselves to thank if our knowledge is not extended thereby.

Our third head need not detain us long. New structures are not so often met with as that the enumeration of them should fill much space; and were we to attempt more than an enumeration, a single novelty would claim the whole time at our disposal. A railway station, a Crystal Palace, a modern hospital on the pavilion plan, a cottage hospital, a monster hotel, an aquarium, a winter garden, a model prison, a workhouse, a block of model dwellings, a board school—each of these is a new structure, each embodies very modern ideas, and each of them requires to be studied with some care before it can be safe for an architect to venture upon it, and each is in fact a new structure. And first, every such modern building as a market, a town hall, an exchange, or a court of law, built to serve the same purposes as ancient structures, must in the present day be much more perfect and much more elaborate than was formerly necessary, and is in effect an almost new contrivance.

A year or two back we were threatened with an importation of Swedish or Norwegian buildings, which, so far as their employment in this country is concerned, would be new buildings. I refer to timber dwelling-houses. The publicity given to Mr. Vicary's importation of a timber house, which he erected in Devonshire, turned attention to the possibility of building very roomy structures of wood at a low cost. I have no means of knowing how far this house has been copied, but it does not seem to have led to many such experiments, or some of them would have been pretty sure to become generally known. It is not easy to see why this build of house should not be followed in sheltered situations in this country. No doubt careful examination would show that it has drawbacks, but for use as a country resort, a shooting lodge, or a hunting box, a timber house properly constructed ought to be fairly comfortable and cheap.

This leads us to another attempt at importation, this time from our own colonies, and due to the ingenuity of Mr. John Tayler, whom I have already had occasion to name, as a building inventor. I allude to the bungalows which that gentleman has erected near Westgate, and at Birchington in the Isle of Thanet. I have had the opportunity of seeing these houses, and of examining one of them in course of construction. They are very simple in shape, mostly, but not always, one storey high, spanned by a simple low-pitched roof, portions of which are prolonged in the true Anglo-Indian style to form a verandah. These buildings seem thoroughly well adapted to the purpose for which they are erected—that of summer sea-side dwelling houses; they can be worked and kept clean with a very small amount of labour, as many contrivances to diminish servants' work have been introduced, and they are evidently cheap to build, though tasteful both outside and in. For the purpose of these buildings Mr. Tayler has invented what may perhaps be called a water-proof wall. This invention has been patented by Mr. Tayler, who is willing to grant licences to those who desire to use it.

Other new buildings are to be found now about watering places where a public room, more or less resembling the *établissement* of a French sea-side town, is often now to be found, and where also an aquarium or winter garden, and a pier with a pavilion at its head is now *de rigueur*. As, however, the Committee on Sessional Papers will, without doubt, see fit to obtain a descriptive account of some, if not all these structures, they need not detain us at the present moment; and the same remark applies to that strikingly new construction which the Safe Deposit Company have engaged our Fellow, Mr. Whichcord, to erect opposite the Mansion House.

In conclusion Mr. Smith enumerated various new building appliances, and regretted that he had been prevented by want of time from procuring a larger number of specimens for exhibition. Before an architect used any new invention he would naturally first inquire—How it would go wrong; secondly, if it went wrong what would be the worst consequences; and, thirdly, whether failure was preventible? Upon the question of repairs, he pointed out that it would not be a fatal objection to the use of iron shutters if the manufacturer's works were 100 yards off; but it would be intolerable if they had to be sent 100 miles when they got out of repair. The position of the architect with regard to the use of novelties was a very responsible one, and Mr. Smith explained that his review of a very large subject had necessarily been very partial and incomplete.

Mr. HEBB said that he had been asked to call the attention of the meeting to some specimens on the walls, and would apologise for not doing so, because the indiscriminate introduction of inventions was perhaps not desirable. In the present instance the exhibitor was not merely the owner but also the producer of the invention. The inventor, who lived in London, was a man of some artistic ability, and the process, which was called xylography, was somewhat similar to that called xylotechnography, described in a Paper recently read before the Institute by Mr. G. T. Robinson. By means of the peculiar nature of the ink employed the inventor obtained a cheaper impression than had hitherto been produced in wood.

Professor KERR, in rising to propose a vote of thanks to Mr. Smith, said

that the subject selected was one upon which he thought it would be well if an annual Paper were read. The public complained of the backwardness of architects in the introduction of new inventions, and he thought it would be good policy to meet such an objection in the mode suggested, as the difficulty he was convinced would not lie in finding material for discussion, but rather in confining the material within reasonable limits. The Paper was very suggestive, and, like all that Mr. Smith undertook, was modest and unambitious: he knew where to stop. One thing, Professor Kerr said, he could not help observing—that although Mr. Smith began by saying, in effect, that building was making no progress at all as compared with the progress made in various other arts, yet in the course of his disquisition he proved that building was making very great progress indeed. This was sufficiently apparent to anyone who looked back twenty or thirty years, and still more so to those whose memory could carry them back to a remoter period. Mr. Smith had referred to the use of iron and glass for structural purposes; and the extent to which those materials had developed in various departments was remarkable. At the same time, the crystal palaces built in various parts of the country, although works of great magnificence, could not, structurally speaking, be regarded as a great success. Great effects were no doubt accomplished, yet he did not think that architecture had, constructively speaking, very materially advanced by that invention. One matter well worthy of consideration was whether steam might not be rendered subservient to building processes. In his (Professor Kerr's) opinion the Vienna dome or Vienna cone (as it ought properly to be designated) was one of the most remarkable inventions of modern times—its marvellous simplicity was extremely interesting, and he would repeat what he had said before, that students of construction would be well repaid by mastering the principles involved in its construction. With regard to Phillips's girders he thought the invention was meritorious, and scarcely deserved to be passed over with the assertion that it consisted mainly in the accumulation of material at the neutral axis, because the simplicity of the girders, and the absence of rivetting were most important features and worthy of careful study. As to the selenitic mortar, of which Mr. Smith spoke with much approval, it was rather a peculiar thing, and he believed that although General Scott was credited with its discovery, selenitic mortar was, in fact, based upon an invention of Mr. Westmacott—the only difference being that, for the purpose of expelling the carbonic acid from the stone, gypsum was substituted by General Scott for ground chalk. Upon the question of concrete he maintained that a concrete wall, as compared with stone or brick, was the only perfect wall we had; the only difficulties were in the successful manipulation of the concrete, and in making it air-tight. The wet might, he believed, be excluded from a concrete wall by the application of cement; and concrete should not be regarded as a substitute for brick and stone, but as something entirely distinct. Upon the interesting subject of artificial stone, the Professor said that he was glad to hear Mr. Smith touch. Ransome's artificial stone would probably have been much more extensively used if it had not been brought out at too high a price to admit of its competing with natural stone. The material was used extensively in America, but only to a very limited extent in England. The question of terra cotta had been dealt with very properly, but not exhaustively, by Mr. Smith. He (Professor Kerr) thought that in designing terra cotta they should endeavour to accommodate it to the roughness of the materials with which it was associated, and he objected altogether to the principle of the indefinite reproduction of the same kind of forms. Why should not terra cotta instead of being treated for the sake of obtaining an infinite reproduction of the same feature be handled with the tool in such a way as to procure much greater variety?

Mr. EDMESTON, in seconding the motion, said he should be glad of a little more information with regard to the properties of selenitic mortar, a material which he believed was undoubtedly invented by General Scott. He would be glad to learn how long it took to set tolerably hard, for it had not succeeded to his satisfaction, although Mr. Smith might have found it answer. With regard to concrete walling, he did not think that any patent was necessary; it made tolerable work and was cheaper than brickwork, and it was new to him to hear that it let the wet through, for he considered that concrete made the driest wall. A concrete wall was both extremely strong and dry. With regard to mineral asphalt paving, there was no pure mineral asphalt in London, excepting that of the Val de Travers Company, all the other things being mixed with pitch. Another application of the asphalt in a liquid form might be in obtaining a fire-proof roof, and in some large buildings in the City it had been used successfully in that way.

Mr. COCKERELL differed from Mr. Edmeston as to concrete walls being perfectly dry, for he had found—assuming they were in solid mass and not with a honeycomb surface—that they let the wet through. Concrete had also the effect of permitting smoke to get all over the house.

Mr. AITCHISON agreed with Mr. Cockerell that concrete walls were not, in the absence of a honeycomb surface, impervious to water, and was proceeding to make further observations when—

Mr. HANSARD suggested—having regard to the lateness of the hour (it being past ten o'clock) and the extensive nature of the subject brought before them—that the discussion be adjourned.

SIR GILBERT SCOTT thought the subject was so extremely large that it could not be advantageously discussed in the course of one evening.

It was accordingly resolved to adjourn the discussion until June 7, when it will be resumed after the presentation of the medals and prizes.

The Design of Mr. Henry O. Harris, A.I.B.A., of Cardiff, has been selected from those sent in in competition for the Penrith schools. It provides accommodation for 376 children, and residence for the master. The buildings will be of local blue lias, with Bath stone dressings, and tenders for the works will be invited at once. Amongst the competitors were Messrs. Wilcox, Wilson & Wilcox, Bath; Messrs. James, Seward & Thomas, Cardiff; Mr. Armstrong, Manchester; and Mr. G. Robinson, Cardiff.

THE NATIONAL COLLECTIONS.

PROFESSOR DONALDSON has sent the following letter to the Times:—

Mr. Sullivan, during the debates upon the Civil Service Estimates, urged a very pertinent practical suggestion—whether Liverpool and other large towns might not have distributed among them the collections contained in the South Kensington Museum, and to a degree one must coincide in this opinion.

It is generally recognised that the South Kensington Museum and the British Museum are overstocked, and that they contain duplicates, almost identical, of various objects. If distributed, in the first instance, among Dublin and Edinburgh, which are alike with London great centres of national instruction, these *replicas* would tend to diffuse acquaintance with objects of art, science, literature, and manufacture, essential to our maintaining our position in those branches of useful study. I will, for example, allude to the endless collection of so-called Greek vases in the British Museum. They occupy a very large number of cases, and an excessive portion of space in those galleries, to the exclusion of other objects hid in the cellars, and for which no room can now be found. Many of these vases are almost identical both in form and subject. The most important of these should be retained as of the greatest moment for the history of art and elucidation of classical history, mythology and the customs of the ancients. But others, which in only some minor points differ from these great types, might be sent to the other capitals of Great Britain which I have named; and the Irish and Scotch artists, scholars, and manufacturers would be highly benefited by having such models immediately under their eyes. And the public also generally, many of whom may seldom, if ever, visit London, would have the advantage of seeing these fine examples which are otherwise inaccessible to them.

There are other classes of objects in these Metropolitan Museums which admit, I would not say, of a like weeding, but rather of judicious abstraction and distribution. These would be of the highest possible utility to all classes of Her Majesty's subjects in the three kingdoms. Thus, duplicates of books, prints, marbles, and manufacturing objects, &c., might be sent to various large towns without injuriously diminishing the Metropolitan collections, and utilise what at present is mere useless and cumbersome superfluity.

THE PARLIAMENTARY ESTIMATES.

ON the 21st inst. the annual votes for the Civil Service Estimates were brought forward in the House of Commons. As usual there was some little grumbling, but all the items were passed. It was objected to the vote of 4,695*l.* for painting and maintaining Westminster Bridge, that last year the amount was only 2,136*l.*, but the explanation given was that every three years it becomes necessary to repaint the bridge—and the present was the third occasion of an increased vote on this account. The sum voted for the completion of the Houses of Parliament was 30,746*l.* The First Commissioner of Works, in supporting it, referred to the frescoes, and said that Mr. Herbert's painting in the peers' robing room would be completed in the course of the summer; that the very simple process adopted by Mr. Richmond for the restoration of Mr. MacIise's fresco was pronounced on all hands to be an eminent success; that the Committee, consisting of Lord Hardinge, Sir W. Boxall, Messrs. Watts, Richmond, and Ward, had undertaken to see if anything could be done to restore the remaining frescoes, but those in the lobby of the Committee-rooms, consisting of illustrations of the English poets, were in such a deplorable condition it was feared they must be left to decay. With regard to the new Home and Colonial offices, it was stated that the Home Secretary would migrate to them on July 1, and Sir George Bowyer took advantage of the occasion to say that the buildings were overcharged with sculpture, and that they would have looked handsomer if there was less ornamentation. 14,776*l.* was voted for Sheriff Court Houses in Scotland, 14,109*l.* for the enlargement of the National Gallery, 3,090*l.* for Burlington House, 180,000*l.* for Post Office and Inland Revenue buildings, 9,538*l.* for the British Museum buildings, 40,680*l.* for new buildings in connection with County Courts, and 9,606*l.* for the Science and Art Department. On the last vote being taken it was objected that it was time there was an end to the expenditure at South Kensington, as the Museum had already cost 1,191,000*l.*, and it was suggested that the collection there was already too vast, and might be distributed among some of the larger towns of the country.

The sum entered for the completion of the Wellington Monument was 3,401*l.*, and Lord H. Lennox, replying to questions from Mr. Adam, Sir G. Bowyer, and Mr. Goldney, observed that when he succeeded to office in the early part of last year very little progress had for a long time been made with the monument, not owing to any administrative fault on the part of his predecessor, but on account of the long and deplorable illness of the lamented sculptor, Mr. Stevens. At that time he asked the Committee to accept a promise from him that he would consider carefully what course ought to be taken, and that if he found the progress made was not likely to be satisfactory he would propose to place the work in other hands. He was now in a position to make a statement of a gratifying character. The figure of the Duke of Wellington had been cast, and was merely awaiting the finishing of the bronze. One of the large side groups was in course of casting, and there now remained in the studio of Mr. Stevens the other large side group, and three small pieces, which, according to a report he had received at the beginning of the present month from two gentlemen who, at his request, had inspected them, were practically finished. In three weeks from the date of that report every part of the Wellington monument was expected to be in the hands of Mr. Young, the founder, to whom the delay which had occurred was not in the least attributable. Therefore, he confidently appealed to the Committee to say whether he had not justified the latitude which had been allowed him last year, inasmuch as during the last twelve months all that the sculptor was required to do had been done, and it only remained for the founder to make the necessary castings. The sum of money in the estimate would finally exhaust the payments for the

work. As far as Mr. Young could tell, before the end of the present year every part of the Wellington Monument would be cast and placed in St. Paul's Cathedral. It would be seen that he had taken a large sum in this year's estimate for that work; but he thought the Committee would prefer that that large sum should appear in the Estimates if he could at the same time assure them that the money voted would produce such substantial results.

On the vote to complete the sum of 80,000*l.* for the erection of the Natural History Museum, Lord H. Lennox said that it would take two years from the present time for the completion of the building; but some additional time would be required for the removal of the collection. During the last year the work had gone on with great spirit, and he was anxious that increased accommodation should as soon as practicable be given to the British Museum.

On the vote to complete the sum of 76,100*l.* for the new Courts of Justice, Mr. Gregory urged the expediency of completing the buildings as soon as possible, adding that if their construction was to proceed only at the rate of expenditure named in the vote it would take seven years, according to the estimate, to finish them—a delay which, taking the rate of interest which had to be paid meantime, and the inconvenience to the legal profession, he strongly deprecated.—Lord H. Lennox said he was in no way responsible for the delay which had occurred in the construction of the new Courts. The works certainly had not made as much progress as he could have wished. He had communicated with the contractors on the subject, and they had stated that the magnitude of the undertaking and the necessity of fixing machinery of a certain kind, which he knew from other quarters was of a first-class character, had taken up a great deal of time. In consequence, he might add, of the remarks which he had made on a former occasion, extra hands had been put on; and he would keep a watchful eye upon the progress of the building.—Sir Henry James inquired whether any contract had been entered into which in any way limited the time at which the new Courts of Justice were to be finally completed.—Mr. Goldney said we had in London many examples of large and substantial buildings which had been erected with great rapidity, and referred, as an example, to Covent Garden Theatre, which, though built in seven months, had, as he was informed, not a single structural defect.—Lord H. Lennox replied that he was certain a contract had been entered into to complete the work in a specified time—seven years, he believed, from the commencement of the works. The foundation stone, it should be remembered, was laid less than a year ago.

ENLARGEMENT OF THE ST. PANCRAS TERMINUS.

THE Midland Railway Company's Bill, which seeks for powers to construct what is called the St. Pancras connecting line, has just been sanctioned by the Committee of the House of Commons, a number of clauses relating to the demolition of houses, the stopping up and widening of streets, and other powers sought by the company having been inserted. The undertaking is one of great magnitude, and the Bill as now sanctioned by the Parliamentary Committee, empowers the company to close no less than twenty streets and places, and demolish upwards of 800 houses in the neighbourhood of St. Pancras. The lands, houses, and other buildings which the Bill empowers the company compulsorily to purchase are situated on the west side of St. Pancras Station, extending northwards to a depth of 400 yards from the Euston Road to Phoenix Street, and westward, about 200 yards from Skinner Street, Euston Road, to Ossulton Street, and covering an area of about fifteen acres in extent. The Bill was opposed by the Metropolitan Board of Works, not, however, on its merits, but with the view of securing the widening of several streets in the neighbourhood of the company's St. Pancras terminus, where it is proposed to effect a great clearance of dwelling-houses. The Committee, after hearing evidence, introduced a clause under which the company, when they have acquired possession of the houses and buildings fronting to that part of Euston Road which lies between Skinner Street and Ossulton Street, shall set back the frontage line to Euston Road so as to allow that portion of the road to be widened to 70 feet. Another clause introduced by the Committee obliges the company, in a similar way, to set back the frontage line of Ossulton Street between Euston Road and Chapel Street, so as to allow of that street being widened to 50 feet. The company are also, at their own expense, to make Skinner Street, which is now only 30 feet wide, 60 feet throughout its entire length, and likewise to widen Phoenix Street to 50 feet. The company are not to be permitted to stop up any of the streets which they will be able to appropriate under the Act until they have completed the street improvements just named. A special clause farther provides that as the construction of the line will involve the removal of a large number of houses occupied by the labouring classes, the company, before displacing any such persons, shall provide sufficient accommodation elsewhere; and for the purpose of enabling them to provide such accommodation they are empowered to sell or let on building leases certain lands in the neighbourhood for the erection of suitable dwelling-houses or lodging-houses.

TEWKESBURY ABBEY.

THE restoration of the Abbey is now being proceeded with, although, owing to the contractors being short of workmen, it is not going on so fast as desirable. The extensive Chapter House (until late years used for the Grammar School) has been opened into it, and most of the columns and arches therein are found to be of marble. The floor of the choir has been taken up, and underneath it there has been discovered a large vault, covered by a massive block of black marble, with the figure of a lady, originally inlaid with metal, carved upon it. Several interesting specimens of sculpture have been discovered, and also a considerable quantity of old coins. The subscription list, at present, amounts to about 4,000*l.* Committees, to promote the restoration, have been formed at Cheltenham and Gloucester, and one is now in course of formation at London.

CONGREGATIONALISTS AND ARCHITECTS.

THE following passage occurs in the report of the English Congregational Chapel Building Society, which was read at the conference held last week at the Memorial Hall, Farringdon Street, under the presidency of Mr. John Crossley, M.P. :—

"The committee entertain a sincere regard for the profession of architects, and never attempt to usurp their true place. But, valuable as the service is, it does not meet all the special requirements of the case. There are many things in our history—circumstances and needs—which architects, as such, do not understand. All, or nearly all, of the local building committees enter upon their work in utter ignorance of the details. Then there is an especial value in an institution like ours to give itself to the study of the question, more especially in its practical bearing, which is in full sympathy with the need and aims of local building committees, and which brings to bear in a healthy spirit on each new undertaking the benefit of its continually growing knowledge. The service of the Society in this respect is, in fact, a practical solution of the once apparently impossible problem fixing the old head on the young shoulder. Because of the use of this guidance so administered, we venture to say to our large contributors, you will do better with your money by entrusting it to such an institution, and leaving it to work out the best practical results, than by giving it directly and unconditionally to those who have everything to learn, or by placing it in the hands of the profession or the contractor. In numerous cases our advice has saved many from mistakes and much unnecessary expense. If it be asked what is the law to regulate our counsel, the answer is—utility. Our first question in every case is, what is the end to be answered? and our advice all goes in the direction of the best means to secure such an end. We have no predetermination in respect of any particular style of architecture; and, much as we respect beauty, we care for no ornament that is not consistent with a design compatible with the circumstances of the case, and available to the useful end. In no case do we ask ourselves what is absolutely the best thing; but, looking at all the facts of each case, we do our best to help to solve the problem what is best in such a locality, with such a population, with such means, and such religious conditions. And, when it comes to the plans submitted to our examination, the chief and determining points in the structure that we look at and aim to secure are solidity, sufficient accommodation, convenience, adaptation, simplicity, and economy. Making the erection of satisfactory buildings the primary object of the Society, it is a fixed and unalterable rule to render primary aid to those cases only whose plans, specifications, and contracts (including conditions of contract) are carefully examined and reported upon in the Society's office before the works are begun and the contracts signed."

THE SLADE PROFESSORSHIP AT UNIVERSITY COLLEGE.

THE *Times* having, in a criticism on Mr. Poynter's paintings in the Royal Academy, stated that "as Slade Professor of the Fine Arts in University College, London, Mr. Poynter is labouring in an employment poorly remunerated, imperfectly appreciated, and little in the public eye, for which, in this commercial country, it is hard to get accomplished and successful painters to turn from lucrative commissions, but without which we can never hope for anything deserving the name of a national school," the Secretary of the Council has offered the following explanation :—

"First as to the 'poor remuneration' of our Slade Professor. His chair is endowed by the munificence of the late Mr. Felix Slade to the extent of upwards of 200*l.* a year, and the amount paid to him last year out of the students' fees was about 600*l.*, after he had paid from the same source the stipends of his three assistants. His income from the Professorship was thus greater than would be supposed from the statement under consideration, though certainly its amount was not so large as to be likely, in this 'commercial country,' to offer much attraction to artists whose chief object may be the obtaining of 'lucrative commissions.' But this, I know, was not Professor Poynter's motive in accepting the post he so ably and worthily holds in this institution, his income from which, however, is considerably larger than he expected it would be when he was appointed to it; but the public recognition, so emphatically given in the *Times*, of his 'fitness for the most important work' of taking a part in laying the foundations of a 'national school' of art, is in his estimation an ample compensation for the possible loss of 'lucrative commissions' that may have resulted from the devotion of his time to professorial labours. Then, as to the 'imperfect appreciation' which the writer alleges those labours receive. The appreciation of a teacher's merits must be measured by his success in attracting and retaining pupils; and, tried by this test, the appreciation enjoyed by Professor Poynter is certainly not 'imperfect.' He has held the Slade Professorship about four years, during which period his pupils have increased from less than 100 in the first session to 205 last session, and to 220 at the present time. These students, moreover, come from every part of the United Kingdom, and even from America, while the Slade School is gradually gaining a Continental reputation. The applications for admission to it have for some time past been more numerous than the existing accommodation is sufficient to meet, and the consequence is that Professor Poynter has recently been obliged, most reluctantly, to refuse admission to many students. The College having no funds for defraying the cost of providing increased accommodation for the Fine Art School, this check, which the Council regret as much as Professor Poynter does, has necessarily been put upon the growth of a department of the College which has manifestly met a real and widely-felt want, and is doing a work truly described in the *Times* as 'most important,' and as national in its scope. It may, therefore, be deemed worthy of consideration whether those who recognise the importance of Professor Poynter's work, and of the promotion in this country of a high, pure, and refined style of art, such as is exem-

plified in Professor Poynter's two pictures, might not most effectually assist the attainment of their objects by taking steps for intrusting the College with the necessary funds for enlarging its fine art buildings, and for providing every other requisite to enable Professor Poynter to admit to the Slade School all who may wish to enter it. A large portion of the funds bequeathed by Mr. Slade for the promotion of art in this country has been most generously applied by his executors in the establishment of our Fine Art School, and their contributions have been supplemented by the Council in so far as they consider themselves justified in doing; but these sources of supply are now exhausted, so that assistance from the lovers of art is now required to maintain and enlarge the usefulness of the Slade School, and thus to promote the attainment of the national object referred to by the writer on whose statements I have felt it my duty to comment."

ST. PETER'S CHURCH, MONKWEARMOUTH.

THIS church has been reopened after being closed for the long time of three years, the works being so extensive that the building is now a new church rather than a restored old building. It is 1,200 years since the original St. Peter's was consecrated by Benedict Biscop. He brought masons from Gaul, because they could "build him a stone church after the manner of the Romans." Within a year from the laying of the foundations, the roofs having been put on, masses were celebrated in it; and when the work was drawing to completion gladiators were brought from Gaul to lattice the windows of the church, and of its porches and refectories. Benedict then went to Rome, and brought pictures, with which, by boarding from wall to wall, he might overlay the middle roof of the church, and others to adorn the north and south walls. Of the church thus built by Benedict, the western wall remains, and forms the western wall of the present nave, the stonework being left unplastered to show the masonry of that early period. The lower portion of the tower, with its very curious archways, was also built before 655, and in the lifetime of the founder. The church as erected by Benedict probably consisted at first of a rectangular nave, with a semicircular apse at the east end, to which the western porch was very soon added. It is most probable that the tower was raised to its present height early in the ninth century. In the thirteenth century a broad aisle was added to the north, and the chantry of St. Lawrence, erected by the Hyltons, east of that, a long and narrow chancel being at the same time erected eastward of the nave. In the fourteenth century the square-headed chancel windows were inserted and the south wall of the nave rebuilt within its original site. A fine canopied tomb for one of the Hyltons was erected in the latter part of the fifteenth century.

The condition of the church in the year 1866 was such that it became absolutely necessary to consider what steps should be taken to secure the preservation of the remains of the Church of Benedict Biscop, as well as to provide a parish church for the inhabitants. The first step was the repair of the Saxon work. After that the erection of the new church, dedicated in honour of the venerable Bede, was undertaken. It was decided to endeavour to bring back the church as far as possible to the plan and arrangement it presented in the fourteenth century after the addition of the north aisle, chancel, and chantry, to the original Saxon fabric. In carrying out this scheme the south wall of the nave has been rebuilt on the old Saxon foundations, and the arcade and chancel arch have been reconstructed on the old lines. It follows that the nave as it now stands reproduces accurately the dimensions of Benedict Biscop's church; the apse which he built is, however, replaced by the thirteenth century chancel which remains. The north wall of the aisle has been moved outwards a few feet to gain space, and while the old Hylton tomb has been kept in its place and restored, it has been necessary to form a quasi transept at the end of the aisle to give further accommodation. Any extension of the church southwards was impossible on account of municipal requirements, save that an organ chamber has been formed south of the chancel. Vestries are built at the east end of the aisle. The church as it stands will hold about 600 worshippers, and the principal entrance is by the north porch, in which the fourteenth century doorway has been built up again, the old characteristic stone roof being put on. The roofs of the church are high pitched, that of the nave following the old lines given by the remains of the Saxon fabric. They are all open timbered except that of the chancel, which is polygonally boarded, and decorated with painting. The east window has the old jambs and sill, and some part of the old arch, and the tracing is carefully worked out on a somewhat peculiar design from the whole fragments that were found on clearing out the filling-in above the sash window that had been put in here. The south windows of the chancel are square headed. One is original; the head of the other is reproduced from the decayed remains of the old one. The other windows are mostly of three lights, with reticulated and trefoiled tracery. A most interesting collection of fragments, disinterred during the progress of the works, is built up in the vestibule to the vestry. The chancel has oak benches placed stallwise, with traceried fronts poppy-headed, and an open traceried screen of oak separates the chancel from the quasi-transept. The Hylton tomb breaks this screen in a picturesque manner.

Mr. Robert J. Johnson, of Newcastle, has been the architect, and the work has been executed under his personal supervision.

The Geneva Museum has acquired a set of Roman kitchen utensils found in a field near Martigny, having probably been buried on account of some sudden alarm. There are thirty articles, mostly in bronze, some of them elaborately worked, and suggestive of the beautiful shape and ornamentation of Pompeian vessels. The shovel and pot-hanger do not differ much from modern articles, and there is an earthen mould shaped like a shell, several plates in various sizes, a saucepan with the bottom worn away, a large boiler, a funnel, two ladles, a stewpan, and vases or ewers with two handles, one of which bears the representation of two gladiators, and apparently awarded as a prize.

LEGAL.

Vice-Chancellors' Courts, Lincoln's Inn.—May 25.

(Before Vice-Chancellor Sir R. MALINS.)

CORPUS v. WITCHELL.—ARCHITECTS' AND SURVEYORS' CERTIFICATES.

This case is of some interest to contractors. The plaintiffs in it carried on their business under the style of "The Economic Concrete Building Company;" and the defendant was a bootmaker at Aberdare. The defendant wished to erect some cottages at that place, and on August 30, 1874, he entered into a contract with the plaintiffs, by which they agreed to build ten cottages for him for 1,870*l.*, to be completed by December 31, 1874, and to be paid for as follows:—75*l.* per cent. per month on the amount of the work done as it proceeded, the same to be ascertained by the certificate of a surveyor; and the remainder of the sum to be paid within one month after the surveyor should certify that all the works had been completely finished to his satisfaction. The surveyor's certificate for the time being was to be final and conclusive between the parties as to the progress, nature, quality, or completion of the works, and in all other matters and things relating to the premises. If the contractors were from bankruptcy, insolvency, or any cause whatever, prevented or delayed in proceeding with the works, or did not proceed in them to the satisfaction of the surveyor, the defendant had power to rescind the contract on notice. The contractors were to be paid what they might then be entitled to, and the materials, whether prepared or unprepared, which might then be on the premises were to belong to the defendant. The contract also stated that Mr. Joshua Morris, of Aberdare, was the surveyor, to whom all matters in dispute were to be referred, and he was thereby appointed by both parties to the agreement for that purpose. The plaintiffs commenced the cottages early in September, 1874, but from inability to obtain cinder clinkers, as required for their peculiar manufacture, and from other causes, were hindered in the works. On September 30, 1874, the town surveyor stopped the works on account of certain roadways and drains not having been completed; but the cottages were afterwards proceeded with. On November 26, 1874, the plaintiffs applied to the defendant for an advance of 75*l.* per cent. on the work done. On December 7, 1874, Mr. Morris sent the plaintiffs a certificate that the value of the work then done was 70*l.* That amount appeared to them too small. They considered that on a fair scale of prices the work then done was about 360*l.* worth, and that, in fact, on the scale of 187*l.* per house, on which the estimates had been based, the value of the work, without extra cost for cinder clinkers to be made good at some time or other, was between 300*l.* and 360*l.*; and the amount payable, therefore, between 180*l.* and 200*l.* They accordingly applied to Mr. Morris on the subject; but he declined to state the grounds on which he had made his certificate for the 70*l.*, or to alter it, believing that he was correct in the amount which he had fixed. The plaintiffs then consulted another surveyor, who certified that the real value of the work then done was 300*l.* and odd. On December 9 the plaintiffs wrote to the defendant, enclosing a copy of the surveyor's certificate for the 70*l.*, stating that the value of the work actually done by them then amounted to 330*l.*, and adding that unless they received a check for 350*l.*, on or before December 15, 1874, they should stop the works. The defendant wrote in reply, that it was no use for the plaintiffs to ask him for money not due to them under the contract; but, according to the terms of which, he was quite prepared to pay whatever was due from time to time. He said, however, that he must have the proper certificate from Mr. Morris before he handed the money over, and offered to send them a check for the 70*l.* On December 15, 1874, the plaintiffs ceased all work under the contract. On January 8, 1875, they went at 4 o'clock in the morning, with some carts and horses, to remove the materials from the premises. On January 9, the defendant gave the plaintiffs formal notice of his intention then and there to rescind the contract and complete the works himself, holding them responsible for any extra costs to which he might be put. The plaintiffs not having been paid for the work they had done, instituted this suit for an account of what was due to them from the defendant under the contract for payment, a declaration that the defendant had not validly rescinded, and was not entitled to rescind, the contract, an injunction to restrain him from appropriating or removing the plant and materials, and from excluding the plaintiffs from the site, or preventing them taking possession of those things, and for damages. The cause came on upon an interlocutory motion for an injunction, which, after some discussion, was taken as a motion for a decree, and the hearing of the cause proceeded with accordingly. A great deal of evidence was adduced on both sides.

Mr. J. Napier Higgins, Q.C., and Mr. G. W. Hemming were for the plaintiffs; Mr. Glasse, Q.C., and Mr. F. O. J. Millar were for the defendant.

Mr. J. N. HIGGINS, Q.C., was heard in reply.

The VICE-CHANCELLOR stated the facts of the case, and in doing so, said no doubt the contract was in its terms very stringent, and the powers of the surveyor or arbitrator ample and undefined. But experience showed that such powers were necessary in cases of this kind; and the contract was not really one iota more stringent than many of those into which contractors voluntarily entered with railway and other companies. It was not to be wondered at that the plaintiffs should have been dissatisfied with Mr. Morris's certificate. They attributed its narrowness to want of competency, or unfairness on his part; but there was nothing in the evidence to establish anything of that sort. He made an independent survey of the works and premises, and the plaintiffs, having by the advice of their solicitors entered into the contract which gave the surveyor such full powers of determining the matter in dispute between the parties, could not, so far, be heard to complain of his certificate. The defendant's conduct appeared to have been harsh and unreasonable, and the certificate certainly was not a liberal one. But the authorities showed that in cases of this nature the only ground on which the certificates of surveyors could be relieved against was when the surveyor's conduct had been improper, vexatious, or fraudulent. Mr. Morris deposed that he believed he was right in the certificate which he had furnished. Other surveyors had been consulted by the plaintiffs, and they had certainly differed from him; but, then, there was also evidence to support his views. There was no proof that he had acted either improperly or vexatiously, and nothing at all to show that he had given a fraudulent certificate. For this Court to interfere in these cases without the strongest proof of the requisite grounds would open the door to an immense amount of danger and mischief; and there were no sufficient grounds in this case. Then, with respect to the conduct of the parties themselves, both the plaintiffs and the defendant were in fault. The plaintiffs should have gone on with their works for at least another month. Mr. Morris might, perhaps, have been induced to reconsider the matter when he gave his next certificate, but they certainly ought not to have peremptorily stopped the works as they did, and then proceeded to remove the materials from the premises. The defendant, too, had been not only harsh and unreasonable on his part, but wrong in thinking he could rescind the contract as he did. The Court found itself greatly embarrassed and much oppressed with the difficulty there was in properly disposing of this case. During the arguments more than one attempt had been made and suggestion offered with a view to a settlement, either by a full performance of the contract on the one hand, or the complete rescission of it on the other. But neither side would listen to the proposals. The strict rights of the parties, therefore, alone remained to be determined; and having regard to the whole case in all its aspects, the proper order to be now made would be that the defendant should give an undertaking to deliver up the plant to the plaintiffs, and that their bill in this suit should be dismissed without costs.

General

The Fine Arts Jury have decided that no painting in this year's Exhibition of the Paris Salon is worthy of the Medal of Honour, but they have awarded one to M. Chaper for his sculpture, "La Jeunesse," forming part of a monument to Regnault and the pupils of the School of Art killed during the war.

The Prince Consort's Memorial Chapel at Windsor Castle is about to be opened to the public by order of the Queen.

A Collection of Drawings and Water-colours by M. Gustave Doré has been sold this week at the Hôtel Drouot. There were eighty examples, and they realised altogether about 55,000 francs.

The Fine Arts Association of Cape Town have opened a gallery in Cape Town. His Excellency Sir Henry Barkly presided at the first meeting, and the Dean of Cape Town delivered an eloquent address.

Mr. Gladstone, it is stated, intends renting Ham Manor House, near Richmond, the residence of Sir Gilbert Scott.

Dr. Schnaase, the art historian, died at Wiesbaden on the 20th inst.

The Duke of Abercorn has informed the Dublin Corporation that he will recommend the Treasury to lend them, instead of 350,000*l.*, a sum of 500,000*l.* for their main drainage works at 3½ per cent., provided that next session they promote a Bill to amend their Act of 1871.

Mr W. Clark, C.E., is to receive the sum of 3,000*l.* for preparing a scheme of drainage for Madras.

Prior Bird's Chapel in Bath Abbey, which was left in an unfinished state at the time of the Reformation, has now been completed by the late Prebendary Kemble's family.

Mr. W. B. Richardson, M.D., F.R.S., has accepted the office of President of the Health Department of the Social Science Congress of Brighton, to take place in October.

Mr. Smith, of the British Museum, has received instructions from the Treasury to renew his researches in Mesopotamia, and he is to remain in the East until the sum of 1,000*l.*, which has been placed at his disposal, is exhausted.

The Public Works Loan Board have advanced 83,550*l.* between January 1, 1871, and December 31, 1874, for improving the dwellings of the labouring classes. Of this amount 32,000*l.* was lent to the Improved Industrial Dwellings Company, and 23,000*l.* to the Metropolitan Association for Improving the Dwellings of the Industrial Classes. The rate of interest is 4 per cent.

The Vestry of St. Pancras, it is estimated, have saved 2,174*l.* 19*s.* 5*d.* during the last twelve months by the adoption of the meter system for the public lights.

The Sub-Walden boring is now progressing at the rate of 25 feet per day, and over 1,000 feet has been reached. Financial difficulties imperil the completion of the work, but it has been resolved to continue it until a depth of 1,500 feet has been reached.

The Oxford Architectural and Historical Society lately made an excursion to Fairford, where they visited the parish church, and inspected the noted stained glass windows.

The Designs of Messrs. Holton & Connon, of Dewsbury, have been selected in the competition for the Southowram Schools.

The Design of Mr. Fothergill Watson has been selected by the Nottingham Gas Committee out of several sets of drawings for the workmen's dwellings in flats at Basford. There will be sixty-three separate dwellings in all. The works are to be proceeded with immediately.

The Windsor Drainage Works have been commenced by the contractor, Mr. Acock. The total cost of the works is estimated at 30,000*l.*, which will be raised by loan, repayable by instalments.

"The Emperor's Bell," which is intended for the Cathedral of Cologne, has arrived there. It was cast from French gun-metal presented by the Emperor of Germany. The attempts at casting repeatedly miscarried.

The Memorial Chapel to the late Bishop Wilberforce, adjoining the college at Cuddesdon, which has been erected at a cost of nearly 6,000*l.*, was on Tuesday opened by the Bishop of Oxford.

The Works of the Harwich New Docks have been commenced at Bathside.

The Oldest House in Leith has just been demolished. The building had all the peculiarities of the dwelling-houses of the age—more than three centuries ago—in which it was erected. An oak casement, beautifully carved and in excellent preservation, was taken out by the workmen when taking down the walls.

The Foundation Stone of the Kidderminster Municipal Buildings was laid on Tuesday last by the Mayor. Mr. J. T. Meredith is the architect.

The Birmingham Town Council have been unable to obtain a lower tender for the supply of Rowley ragstone for paving than 6*s.* 1*d.* per ton, the highest price formerly being 4*s.* 10*d.* The re-paving of about 3½ miles of streets about to be undertaken will cost 52,000*l.*

The "Manchester Guardian" says that, among a number of valuable articles which went down in the *Cadis* off Ushant, was a handsome hunting-knife belonging to the King of Portugal. It was a somewhat celebrated work of art. The sheath and handle were curiously and elaborately carved in solid silver into a profusion of heads of animals of the chase. The work was executed by Raphael Da Costa, a celebrated artist of Portugal, and occupied him eleven years in its completion. The knife was sent from Lisbon in the *Cadis* for the purpose of being placed on view at the Portugal Legation in London, and was insured to the amount of 7,000*l.* Unfortunately the model was lost, as well as the actual trophy.

The Architect.

CONSTRUCTIVE SCIENCE AT THE INSTITUTE OF ARCHITECTS.



THE subject which is set down for discussion at the Institute of Architects next Monday evening is one which may be said to constitute a very good test of the metal of which that body is composed.

It was suggested at the previous meeting that the progress of building science might be looked upon as a matter which it would be well for the Institute systematically to investigate once a year; and the hint was certainly received with sufficient favour. Not only is it in the eyes of the public to a great extent a thing which architects are supposed to be capable of overlooking, but in the

opinion of all truly intelligent persons, no amount of artistic merit in certain architects individually can excuse the profession at large from undertaking most thoroughly to appreciate and understand it. When therefore we find a member of such studious and reflective mind as Mr. ROGER SMITH coming forward to initiate discussion upon this subject by reading a Paper like that which we reported in our last number, we must plainly say that we expect to find his brethren accepting the challenge in such a way as to endeavour at any rate to prove their personal knowledge of their practical work to be equal to the demands of the age. The visionary and whimsical criticisms which are occasionally expressed regarding the English architect's deficiencies in the knowledge of architecture we can contemplate with a little amusement, although mixed with a good deal of annoyance; but when it is alleged that he is backward in his acquaintance with building, this is what we cannot avoid, in these days of engineering enterprise and inventive genius, to look upon as a question of the most serious import.

There are two or three ways in which the meeting may take up the subject. It is possible that the hour and a half at its disposal may be frittered away in those exchanges of experience about trifles which are too often all that can be supplied by certain kinds of very useful people who "know their business" only in that empirical way which answers to the common-place affairs of a trade. It is not improbable, again, that there may be apparent something like a disposition on the part of practitioners who are really somewhat behind the age in science, to assume each his own little standpoint upon some unimportant specialty, whereby to disguise a general want of understanding. There are even some, as we fear, who may hold upon principle to the doctrine that all discussion whatever is a bore, and so seek to save, or, as they think, uphold the reputation of the body by every one prudently avoiding to commit himself upon details. Lastly, let us say, we hope there may be some who on this occasion perceive that the matter in hand is the broad area of nineteenth century science, and who will therefore strive to the utmost to sustain the enquiry in a large-minded and truly intellectual manner.

The proposition with which Mr. ROGER SMITH set out in his excellent discourse was one which many of our readers may be disposed to characterise as a mistake, not only in fact but in policy. In building, said he, there has not been the same degree of advancement as in other departments of applied science; wherefore, he implied, he and his hearers, and their brethren in England at large, must be excused by such classes of men as the civil engineers, the machinists, the chemists, the electricians, and other inventive specialists who have made England so famous, for that they may not be able to make a display of novelties which shall seem creditable in the face of such enviable progress. But at any rate, the more the lecturer enlarged upon his subject the more he proved his apology was needless; and we will consent to take it therefore as only one more of those too-amiable instances of self-depreciation for which the English architect of our day is in some respects as distinguished as in others he is perhaps remarkable for something like the reverse.

It must not be forgotten that the designers of such structures as the Crystal Palace, the covering of the Vienna Exhibition building, the roof of the St. Pancras Railway Station, the dome of the Albert Hall, and the hundred and one varieties of modern viaducts and bridges, are in every case, although nominally engineers, really architects. Building is just now an art, we may take leave to say, of three great branches; architectural building, engineering building, and that advanced shipbuilding which is called indeed nowadays in this express sense naval architecture; and so, he who intelligently looks at the roof trussing of a great railway station must surely perceive that it is all an architectural and in no degree an engineering work of construction, just as the railway is all engineering and in no way architectural, or a steam ram naval and nothing else. Why it is that the profession of engineers and not that of the architects has furnished the men to contrive the great works of architectural build-

ing which we have instanced is altogether another question; perhaps a personal question, perhaps not; certainly a professional question so far as it goes; but a scientific question it assuredly is not. Therefore, when an architect speaks of the progress of building science in these days it is vain to overlook what happens to have been done by engineers simply because they do not call themselves architects; it would be far better to accept such constructors as architects in name, and let the engineers, if they wish to do so, show that this is not correct in fact.

The advance of building science, therefore, has of late years been marked by many notable innovations. Iron and glass construction, rolled and built iron girders, iron trussing of great span, the Vienna cone, concrete work in its varieties, artificial stone, terra cotta, mosaic, timber houses, various cements, and a multitude of contrivances in drainage, heating, ventilation, fireproof work, plumbers, gas-lighting, stoves and chimneys, tile-work, and so on, with an equal variety of new processes of decoration, all come under review at a glance. Of the merits of this imposing list of scientific matter there can surely be no doubt; and it was said with obvious truth, in the commencement of discussion which immediately followed the reading of Mr. ROGER SMITH'S Paper, that the constructive work of the architect has now become very different indeed from what it was twenty or thirty years ago.

But the question whether the generality of such men as are members of the Institute are equal or not to the full appreciation of all these items of scientific progress is one which we shall be better able to answer next week. It is of course the peculiar position of the architect to carry in one hand the tools of mechanical work and in the other the refined appliances of imaginative design—a burden of intellect more than most men can readily bear. How much the exercise of the graces of fancy interferes with the practice of the computations of scientific skill is well known; and none the less remarkable is the detriment to artistic genius which is produced by the habit of mind that best favours constructive ambition. We must not, therefore, lightly call upon any man to be at once a great artist and a wonderful builder. But we have this alternative—whilst we recognise in certain of our architectural leaders those particular accomplishments which point to a seat in the Royal Academy, we look to others, no less distinguished, for those qualities, kindred only incidentally in business, and mentally in no way at all, which lead across the line that separates the Institute of Architects from the Institution of Civil Engineers.

We earnestly trust that it may not be truly said of any member of the Institute, however brilliant he may be supposed to be as an imaginative artist, that he positively discountenances as an inferior task, if not an unworthy one, the study of practical construction. It is not to be disputed that there are avowed enemies of the profession (and why the profession should have avowed enemies at all we are quite at a loss to understand) who do not fail to insinuate, if they hesitate to assert, that this depreciation of science is characteristic of the typical architect whom they seek, if not to overthrow, to undermine. Neither can the circumstance be ignored that such exponents of a discontent for which there may occasionally be something like an appearance of reason must be confessed to be too often successful for the moment with certain classes of the public who are content to procure their opinions upon matters which are professionally obscure from "the man in the street." But we venture to deny the accuracy of the supposition that any truly artistic architect can ever forget that he is a constructor first before he can be an artist at all; and even if it were to be suggested, as a weak point, for example, in the advanced ecclesiastical practice of the day, that church architecture will prefer to identify itself with the finesses of decorative processes and archaeological authenticities rather than with the too practical philosophy of the strains of lattice girders and the equilibration of arches, we are not indisposed to hint that after all the fastidiousness of even our extremists in art is more apparent than real, and that we know of no one of them who is in any way in the habit of sacrificing the solid pudding of plain bricks and mortar in actual business for the comparatively empty delights of pure fancy. We name no names, but we cannot pronounce it to be a custom in the architectural profession to turn up the nose even of a Royal Academician at work of the humblest respectable order, so long as an acceptable equivalent in the shape of five per centum is tacked on to the end of it.

But what we should really like to see occupying the attention of leading members of the Institute on Monday evening next is the actual science of the so-called engineer; and the way in which we should like to see this handled is boldly and authoritatively. The behaviour, as the phrase goes, of building materials is, as matter of fact, probably more familiar in many important respects to the architect than to the engineer. The scale of their use may be different, or perhaps it may not; but the arcana of their nature and the practical principles of their employment in the architect's work must of necessity be at the architect's finger ends. In the application of the formulæ of structural calculation, again, there is no reason why the architect should be in any way behind the engineer; the precise strength of the Britannia Bridge, the precise design of the St. Pancras roof, the precise principles of the Vienna cone, are matters in which the architect who happens to be a mathematician—and it is not every engineer who happens to be so—may surely trust himself to speak as freely as any

one in the world. So also with such a subject as the manufacture of terra cotta, artificial stone, or mosaic; why should those architects who are well known to understand the *rationale* of the case be so excessively modest? Even in drainage, ventilation, chimney construction, and a round dozen or two of similar vulgarities, as one may say, of building practice, why should the architects hesitate to take the lead of the tradesmen? We are inclined to think, after all, there is much more of false modesty and much less of ignorance amongst English architects just now than they allow the public to suppose.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

The Greek Plays.—IV.

PERICLES—so popular in the seventeenth century that it divided the honours with *Jane Shore*—is such a very doubtful play, no matter what point of view we take, that I might fairly be excused if I omitted it altogether from this series. It is, moreover, a drama that has not been acted for a long time, and it is devoutly to be hoped never may be acted again. *GOWER* as chorus fixes the date of the story, and shows that the "ANTIOCHUS, King of Antioch," of the *dramatis personæ*, is the same as *ANTIOCHUS THE GREAT* who reigned over Syria B.C. 233—187. There is nothing, probably, in the whole range of dramatic writing where the unities of time and place are so persistently disregarded as in *Pericles*. In the four scenes of the short first Act we are hurried from Antioch to Tyre, and from Tyre to Tharsus. By the time we reach the second Act we find ourselves in "Pentapolis" (Cyrenaica)* whence we go to Tyre and back again. In the third Act we are on a ship at sea, then at Ephesus, then at Tharsus, returning again to Ephesus. In the next act we go to and fro between Tharsus and Mitylene, and in the last we go from Mitylene to Ephesus. Then again the text teems with anachronisms, e.g., stringed viols, pistols, bellows, parish churches with their steeples, bells and all, headles, tennis courts, tournaments, shields charged with mediæval devices and mottoes, ink and paper, a Spaniard in a ruff, a French knight—one "Monsieur VEROLES," a Puritan, and other late sixteenth century names of persons and things which it is not necessary to rehearse.

The Comedy of Errors, on the other hand, possesses complete unity of time and place; and although the text is somewhat laden with anachronisms, there is nothing so outrageous as a mediæval tournament taking a place in the action of a piece which in itself professes to belong to the time of *ANTIOCHUS THE GREAT*. The scene of this Comedy is Ephesus, and the time that when the old order of things was giving place to the new. Therefore, although I have classed this work with the Greek plays, it is really classical only in the associations of its scenery and in the pictures it may present us of such portions of the ancient city which may have been preserved as late as the time of *CONSTANTINE*. For we must, I think, admit that the Comedy of Errors has reference to a time when the Christian Church of Ephesus was enjoying either the undisturbed days that followed after the *DIOCLETIAN* persecution (A.D. 303), or the earlier lull that ensued about fifty years before this, or immediately after the *VALERIAN* persecution. As there is not the faintest indication in the text of the worship of either the Greek or Ephesian *ARTEMIS*, as no one throughout the play refers to any god or goddess of Roman, Greek, or Asiatic mythology, and as there is an abbess evidently regarded with no small respect, I am inclined to accept the latest date or the reign of *CONSTANTINE THE GREAT*, A.D. 306—337, as the period of the action, a time when Ephesus, although her glory had departed, was still a busy place, when her temples and public buildings had not yet been scanned from the quarryman's point of view, and when a stranger might very well desire or even be anxious to "view the city," and "gaze upon the buildings."

The scenery as set down for this comedy consists of:—

1. A hall in the Duke's palace.
2. A public place (for Acts 2 and 4).
3. A public place (in front of the house of *Antipholus* for Act 3).
4. A public place (in front of a nunnery for Act 5).

The second Scene of the first Act is also a public place or street; and if an open vestibule or portico of the palace be arranged so as to form part of it, one set scene might well serve for the first Act. The scenery thus treated would be wholly external, and illustrative of the street architecture of Ephesus circa A.D. 330. With a little care these four scenes might be made very interesting, for nowhere did the twilight of the old order of things and the dawn of the new commingle more completely than in this great Ionian city. But the old order of things was very different in the Ionian Greek colony of Asia Minor to what it was in Hellas proper. The basic influence of the native or Asiatic in this colony was immense, whilst the operations, first of their neighbour *Cæsus*, then of Persia on the one hand, and Macedonia on the other, were not likely to pass over the heads of

such a lively impressionable mixed population as the Ephesians were without leaving some evidence behind them. The Asiatic part in the combination was markedly visible in the great idol. The *ARTEMIS* of the Greeks closely followed in the *DIANA* of the Romans was ever a maiden goddess, and in early mythology was as distinct from the Goddess of the Moon as *APOLLO* was from *HELIOS*. The chaste goddess of the silver bow sending forth arrows armed with plagues and death for man and beast, yet helpful and curative, and especially watchful of the young, is a very different sort of divinity from one whose priests were eunuchs, and who embodied as her chief attractions the ideas of fructification and nourishment: one who was represented not as a tall, small-hipped, beautiful woman by any manner of means, but as a strange archaic mass of symbolism, of which it is enough to say that a mural crown rested upon the head, and the body was literally covered with numerous breasts.* Later on, or B.C. 355, when the Great Temple (whose character has been made known to us through Mr. J.T. Wood's excavations) was designed, the influence of Persian art becomes manifest. The *columnæ calatæ* are almost as widely separated from the pillars of the Athenian Propylæe or the Parthenon as the freest-Renaissance is from the severest Roman. Commercial prosperity and undisciplined freedom were tolerably safe foundations for the licentiousness and voluptuous luxury that towered not only over Ephesian society, but over the whole Ionian district, and this licentiousness, splendid in its extravagance, we may be quite sure found expression in architecture and sculpture as well as in poetry and music, or in habits of life. The fragments of the Temple now in the British Museum, especially of the *columnæ calatæ*, or sculptured pillars, are quite sufficient to show this, and although from its size and its costliness, both in material and labour, this building might have arrested the attention of the mass of the people, and have been regarded as one of the wonders of the world by men who revelled in the luck of their geographical position, who loved uproar and witchcraft, but could not fight—although no doubt there were certain elegances in its Ionic proportions, enchanting effects in its tall columns and their long vistas, and bewitching beauty in its architectural features made to look their best by help of paint and the plastic art; yet from the evidence before us the Doric temple of *MINERVA* at Athens, covering not a quarter of the area this at Ephesus occupied, must have been as immeasurably superior to it as order is to confusion or sobriety to intemperance. The general street architecture of Ephesus, A.D. 330, would not, however, be composed of Ionic colonnades, nor would the house of *ANTIPHOLUS*, nor even that of the chief magistrate, duke, or proconsul be a miniature reproduction of the temple of *ARTEMIS* or *DIANA*. That the houses of Ephesus were more elaborate and more fanciful than those of towns where the Doric style prevailed may be at once admitted; that in the better class of buildings the upper floor might have been planned as an open loggia surrounded by Ionic columns supporting entablature and low-pitched roof is not improbable; that public *leachai* with rows of marble shafts and picture-covered walls might be seen in many an open place is more than probable; and it is not unlikely that some of these might have existed in the midst of new Roman arches and piles of Roman pilasters in A.D. 330; but the scene painter, whose only notion of Ephesus is that it was a town of Greek temples or a city of Roman palaces or basilicas, would do better if, instead of troubling to put his idea into pictured form of pillar and pediment, he gave us whitewashed canvas and wrote upon it—"This is Ephesus." If, however, he is minded to make his work go hand in hand with our age—an age when every branch of science is being more or less explored—then by careful study of Mr. Wood's discoveries and of such remains and restorations of the monuments of Xanthus and Halicarnassus that we possess the character of the early architecture of Ephesus may be secured. So, also, by turning his attention to such works as the houses at Pompeii, the Flavian Amphitheatre (A.D. 70), *DIOCLETIAN'S* Palace at Spalatro (A.D. 284), and even the Porta Nigra at Treves, he may be enabled, if he has any constructive intelligence, to give us a tolerably fair idea of the later buildings of Ephesus in A.D. 330.

For the costume of the Comedy of Errors authorities are to be found in wall paintings, in coins, and in the sculptures of the reign of *CONSTANTINE*. The influence of Rome, it must be remembered, was like no other influence the world has ever experienced in the irresistible power with which she grasped the outward life of the people she conquered, moulding their habits and customs, their dress and their building, in her own way. In Gaul, in Germany, in Asia, as in Italy, the same Roman fashions prevailed. The ordinary civil dress was a long tunic, made without sleeves, but cut square, so that the material fell over the shoulder like loose sleeves, much the same as we see in the Greek chiton, for the sleeved tunic does not appear to have been generally adopted until the fifth century. The men's tunic was as a rule short, the women's long. Three kinds of mantle or upper garment were used at this time:—1, a short thick woollen cloak, called *penula*, reaching to the knee, chiefly used on journeys as less cumbersome than the other forms of wrap; 2, a *burrus* or cloak for rainy weather, generally made of wool left long and shaggy—this was also used as a hood or covering

* As even the author of *Pericles* with the assistance of a chorus can hardly bring, at one and the same time, the good King *Simonides* and his friends into five cities, we must select one out of Pentapolis for the King's residence, and the city *Cyrene* will do as well as any other.

* *Artemis*, in early Greek myth, is, so to speak, the female of *Apollon*; when *Apollon* and *Helios* were confounded together, and treated as one personality, *Artemis* and *Selene* became one. The greatness of the Ephesian divinity seems to have consisted in its dual nature.

for the head; 3, the toga, used only by the upper classes at important meetings or on great festive occasions; this robe was made extremely capacious, so as to be full of folds when arranged on the body, and was cut in a curved shape, usually something less than a semicircle: one end was thrown over the left shoulder, and the circular part hung down in front, nearly as low as the feet. It was then wrapped round the back, passed under the right arm, and brought once more over the left shoulder across the chest like a belt, but not too tightly. The "Duke" in the play should wear a toga embroidered with gold, but the ordinary toga was of plain white wool. In A.D. 330 the use of the toga was rapidly on the decline. As an article of female costume it had long been given up, except by the *meretrix* and the *adultera*, the latter of whom at the time we are considering had not much opportunity for the display of the toga or any other costume, for by the law of CONSTANTINE she was first whipped and then sent to a nunnery, whence if not taken by her husband she was forced to take the habit of a nun and the convent gate was closed on her for ever. The meretrix in the comedy might, besides her tunic, wear a thin silk scarf or shawl, for silk or sericum as an ordinary material for the better kind of dress had come into fashion, gone out and come in again since the time of HERMION and TIMON of Athens. *Holoserica* or *bombycinum* was made entirely from the cocoons of the *bombyx* or silkworm, but there was also a semi-silk manufacture known by the name *subsericus*, where the warp was of linen or wool, and this was by no means an uncommon material in the wardrobes of the luxurious and the gay of both sexes, although its use was regarded with more or less jealousy by imperial eyes. The "Abbess" would be dressed in the *tunic* and the *berrus*; the latter worn over the head—hood-wise—brought round the right cheek over the breast, and thrown over the left shoulder. Any figure on the dress, or on the "Priory," would be probably limited to that of the sacred monogram (the X and P) which appears on the coins of CONSTANTINE, and which seems to have been then generally used, precisely as the simple form of cross was at a later period. A material much affected by the Christians of this period was a woollen stuff with a dark band woven in it, or left as the salvage. In the latter case the dress, if made of four widths of stuff, would thus have two vertical stripes on the front and the back, where the salvages joined. The penula shown on one of the paintings in the Catacombs, illustrated by PERRET, shows the outer or edge border dark, and two bands double the width of this border, dividing the mantle into what, if laid out, would be three equal portions. Shoes and slippers appear to have been commonly worn by both sexes, and necklaces, chains, ear-rings, costly girdles, and head dresses, seem to have found favour in the eyes of the fair Ephesians in spite of all St. PAUL's teaching.

THE ROYAL ACADEMY.—SCULPTURE.

TWO leaders of the forlorn hope of English sculpture have passed away since the last Academy Exhibition was open, and we now see their names for the last time in the catalogue—J. H. FOLEY and J. B. PHILIP. The refined taste and fine balance of the first are shown in the large seated figure of *The late Sir Benjamin Guinness* (1,305), although the treatment of attitude and costume is too much after routine to redeem the statue from elegant, well-sustained mediocrity. By PHILIP, under the title *Homeward Bound* (1,303), is exhibited a naturalistic group of a peasant woman bearing a child on her shoulder, more vigorous than pleasing perhaps, but the onward motion given to the figure is praiseworthy, and the modelling has more decision than much of PHILIP's work.

The election of Mr. ARMSTEAD to a vacant associateship is one of the best recent distributions of academic honours. The sculptor has sent two works to justify his claims to recognition, *The Dead Leander* (1,287), an unfinished bas-relief in marble, and a figure of *Philosophy* (1,318), to be cast in bronze for King's College, Cambridge. There is no mistaking in Mr. ARMSTEAD's work a power of original conception, and an individual mannerism which is the nearest approach to "style" in sculpture that we English seem worthy to attain to. The composition of the relief is fine; with stretched-out limbs, heavy in death, lies the drowned LEANDER, his head and shoulders supported on the lap of the Siren, a sea bird with widespread wings hovers near and brings balance into a scheme of lines else unrhythmic and odd. The treatment of the nude is fine, largely planned, moulded tenderly, yet without meaningless finish. But the casting of the drapery and the management of the hair in the other figure is wholly different, and to our mind savours of the painter's brush rather than of the sculptor's chisel. These crumpled angular folds, these rope-like tresses may be intended to represent the effect of salt waves on the robe and locks of the disconsolate Siren; but the result is an unsculpturesque scratchiness of surface. Nothing, on the contrary, can be better than the simple broad folds of drapery that clothe the massive seated figure of *Philosophy*. The face is of the low-browed type, with protruding chin, that Mr. ARMSTEAD affects, according with large and rather lumpish limbs. The right arm of *Philosophy* is certainly painfully short, and moreover without moulding at the turn of the wrist: a less graceful treatment could not well be devised. But the figure, taken altogether, has nobility, dignity, largeness, qualities to gain which one may forgive short-

comings. Mr. ARMSTEAD has won a position which will bear to be improved. A young sculptor whose work has attracted us strongly has a position to make, but unless we mistake the power is not wanting. There are several pieces by this new comer, T. N. MACLEAN; notably, a seated figure called *Ione* (1,328). The statue is singularly graceful in composing line, graceful even to a fault. The girl's limbs are crossed, and one foot only touches the ground, the right arm resting on the edge of her seat supports the body, the left holds the tablet on her knee. Between the head, torso, and extremities a perfect balance of proportion reigns, instead of a medley of models, as is common to the figures of English sculptors. The whole thing is entirely fresh and natural. If Mr. MACLEAN can add to grace and symmetry, vigour and character we shall hear good things of him.

The evil genius of Mr. DURHAM prompted him to attempt an elaborate group of *The Siren and Leander* (1,336), chiefly remarkable for the extraordinarily bad composition, which refuses to please at any angle. Fortunately the sculptor appears to better, indeed to very good, advantage in a design for a *Double Drinking Fountain, to be cast in Bronze* (1,300). The management of the two boys, back to back, with their pitchers and the foliage plants, is very happily thought of. We may name among fancy figures *Maria, M^{me}. de Stael* (1,310), by TANTARDINI; *A Bowler* (1,323), which is a respectable crib from the antique, by Mr. STEPHENS; also *Forsaken* (1,299), a spasmodic figure not without merit, by A. BRUCE JOY; unfortunately the artist has overpassed the line which parts the sculptor and the poet, and committed an error in choice of subject, which is only made more obvious by the amount of intensity thrown into the passionate action of the figure. Prettily decorative is *A Falconer* (1,324), by G. SIMMONDS. The most spirited piece of fanciful work is, however, *Le Génie de Franklin* (1,384), in the marble, by G. MONTEVERDE, a sprite of a boy curled round a lightning conductor. We could suppose the sculptor a pupil of CARPEAUX, so much piquant *diablerie* is in the elish boy, so sharp is the execution, so full of purpose the design. The usual amount of mild sentiment and ambitious inanity encumbers the space of the sculpture galleries. As signal examples we may cite *'Tis my Mamma* (1,334), by O. S. RUDDOCK, a very domestic group indeed, and the collection of portraits honoured in extremely high relief by Count GLERCHEN, as a *Family Group* (1,238). The pursuit of art in high places is most commendable, but if such family matters as this marble relievio were kept strictly in the family it might be better for the honour of our Exhibition.

Portraiture among the sculpture receives welcome variety in the figure of *Mr. Thomas Carlyle*, by J. E. BOEHM (1,301). The prophet in dressing-gown and very large shoes sits meditative in an easy chair, head inclined forward, both hands resting quietly on the crossed knees. Of course the treatment is eminently naturalistic, but it escapes the grotesque, and the somewhat coarse handling of Mr. BOEHM has served, as it seems to us, with unusual tenderness and reticence the picturesque and rugged grandeur of his subject. The face and figure so familiar among us will be handed down to posterity in kindly, though not in heroic, fashion by this statue. The shelves of busts are even more than usually deficient in interest. After the terra cottas by M. DALOU, of *Miss Heeltine* (1,351), and of *J. E. Hodgson, A.R.A.* (1,358), both of which are somewhat exaggerated in the mannerism that mars M. DALOU's clever work, such as absurdly deep cutting of the eyeball and strain of the cheeks, the greatest attraction lies in two jokes among the busts, portraits both of powerful types, *Mr. Spurgeon*, namely, by ADAMS-ACTON (1,396), and *Sir Henry Cole, K.C.B.*, by J. GAMBLE (1,402). In the first case, we may consider that the subject makes the joke, for nature has certainly gifted the preacher with an irresistibly marked physiognomy; in the second instance the fun is fairly divided between sitter and artist; every spurt of Mr. GAMBLE's chisel seems incisive with satire, unintentional we must presume. As a last contribution from the late C. FULLER, of Florence, a sculptor whose early promise was never fulfilled, comes a bust of a handsome lady, *Mlle. Le Breton* (1,250).

We cannot conclude without notice of the increasing number of ladies' names among the sculptors. We wish the fair sex every success in their arduous profession, but we fear there is not much chance for them so long as a sculptor's atelier in which women may study under good teaching does not exist in London.

Mr. Richard Burchett, the esteemed head-master of the Training School at South Kensington, died in Dublin on the 27th ult. after a long illness. He was connected with the Science and Art Department from its establishment, and previously had been master in the School of Design at Somerset House. He was thus a most useful public servant for over thirty years. The majority of the masters of the art schools of the country had been trained under him. Mr. Burchett was also a historical painter of much merit, several works of his having been exhibited of late years in the Royal Academy and in provincial exhibitions, and was the painter of the series of portraits of the sovereigns of England in the Rebing Room of the House of Lords. Books on practical geometry and perspective, which he compiled, have been most popular with students, and have run through many editions.

THE PLANNING OF STREETS.

By A PROVINCIAL ARCHITECT.

FEW persons reflect—and we fear few promoters of new thoroughfares—how many subtle ingredients enter into the formation of a gay, agreeable-looking street. By the term "street" we mean a thoroughfare of any kind, be it crescent, circus, or street so called, enclosed on each of its sides by buildings—a definition that will, of course, exclude such parkal fringes as Princes Street, Edinburgh, or the London Piccadilly. Moreover, by the "planning" of streets we may as well premise these remarks pertain only to their artistic formation or design, quite irrespective of sewerage, subways, or aught else subterranean.

If we look at the maps of any of our thriving ancient cities, and compare the formation of their new streets with the old ones, we see the usual tendency to formality in the modern, and to irregularity in the ancient, thoroughfares. Not only are the lines of these latter oblique in direction, but they are seldom rectilinear; while not merely right lines but right angles obtain in the case of the new streets and "improved" districts. Here, certainly, is an egregious falling-off in comeliness and amenity from the ancient method of street planning. Whether the fact be attributable to accident or otherwise it is now hard to say, but somehow our forefathers do not appear to have been smitten in the laying out of any old English town with that rage for straight and square-set lines we are ourselves so prone to. That it is a propensity favourable to gloom and utter dullness of aspect any one familiar with, let us say, the Portland, the Bedford, the Grosvenor, or, the Somers estates, laid out for the extension and improvement of old London, would readily allow. Even the occasional wayfarer along Baker, Harley, or Gower Streets assents to their proverbial stupidity of aspect: to realise it and have it driven into one's soul a man should dwell regularly in those lively districts, and be doomed to have (as many have) his daily "constitutional" limited to their confines. It is a mistake to suppose the weary sameness of the façades—two square windows, iron railing and a door, two square windows, iron railing and a door, and so on—constitutes the besetting, all-pervading defect of these unfortunate streets. That it is but one of the superinducing causes of their dullness any one may see, on pacing for a few days those portions of the Bedford Estate which have, within the last dozen years, had their old brick fronts "done up" in compe, from the designs of the Duke of Bedford's Surveyor, the late Mr. Charles Parker, no mean manipulator of the Italian style. Here, it is true, the mean stone copings have been replaced by mutilated and modillioned cornices; moulded "dressings" with and without pediments may make us forget the mean, square brick openings of the old windows; and rustication and long lines of moulded stringcourses, all do their best to charm us, but in vain. One paces the Bedfordian Streets as wearily as ever; some fail to appreciate the beauty of the cornices, the dressings, the string courses and the rustics—albeit they tend us on our right hand and on our left, and await us in due order and symmetry in the far distance. Some of us may sigh for a glance again at even the old red brick window openings of Queen Anne's time, with their quaint soffits, cut here and there to the double ogee, or other cunning curve; and somehow we are all discontented with Mr. Parker's "Improvements of the Bedford Estate."

The wearisome aspect of most of these modern streets arises from their long-drawn, straight and rectangular plan, far more than from the monotony of their architecture. It will be obvious that, so far as regards the attractiveness of its architecture, all interest in the aspect of any street we traverse, subsides to zero, when, by the too facile display of its distant extremities, we can predicate to a line what will be the component features of its façades, when we come up to them. And this is true, not only of a straight street, but of a crescent. We comprehend its whole at a glance; and, having done so, have nothing in the mere architectonic lines to beguile us, as we pace it to the bitter end. We are speaking of course of the architecture of a crescent: with most crescents there is an open parterre in front, towards which the attention of the wayfarer is sure to be drawn, and as sure to be arrested. A mere chance of the contrary, however slender, would not only relieve the evil, but even go far to remove the apathy or *ennui* of the beholder. Mr. Nash's Quadrant in Regent Street—especially if we re-clothe it with its fair colonnade, taken down to appease the shopkeepers—will occur to any one as a proof of what we are saying. There was always present to the mind of the lounge along either of its sides a dim expectation that a turn of that Doric peristyle would reveal some novelty, as yet unseen, or, any way, never before noticed. We might go on to urge that in the planning of pleasant streets a liberal width should be given them; and that there should always be with this liberality of width a minimum proportionate limit to the height of the houses on each side. 'Tis a good rule enough; and its violation has been the ruin of Victoria Street, Westminster, about whose plan and inception such a fuss was made—to end at last in failure; but it is hardly such a rule as we should care to see "made absolute," as the lawyers say, in all cases. We should be sorry to part with the few fast-fading "Rows" of Old England, such as those in York, Maryport in Bristol, Butcher's Row in Shrewsbury, the Rows of Chester and elsewhere; or, to lay down a rule to make their revival an impracticability. Width of street, with proportionate lowness of houses, are not infallible concomitants of beauty in street planning, as any one will admit who has ever paced from end to end such dreary thoroughfares as King, Cumberland, or Melville Streets in Edinburgh. Here every besetting vice of street-planning seems to have rushed incontinently to the fore. We have ample width of carriage and

foot-way, and restricted height of houses; nay, we have handsome ashlar-faced houses, but the streets are so very long, so very straight, so void of byways or interruptions of their dismal line, and, to make matters worse, so provokingly symmetrical in their architecture, that their hideous aspect is deservedly proverbial. Portland Place, in Marylebone, is a well-proportioned street; but although it is both straight and rectangular it is short—or, in other words, there is not too much of it—and its redeeming feature is the frequency with which its line is broken up by cross streets. This breaking up of the street line is one of "the many subtle ingredients" of comeliness in street planning adverted to at the beginning of these notes.

Were we asked to say what really is the all-pervading, infallible source of comeliness in street planning, we should say, unhesitatingly, sinuosity. A serpentine form of street can scarcely ever fail to be pleasing, however untoward its surroundings. Who is there that would not rather daily pace (if he must perforce do it) the ugly-built Westminster Bridge Road than the stately Portland Place? Where we have width of street, beauty and variety of buildings, and here and there a glimpse of healthy foliage thrown in, even a straight street (if there is not too much of it) will prove a success: but, after all, how would the best-designed street of this class compare with the sinuous High Street of Oxford, with its oft-recurring promise, never failing, of good things yet to come, as college after college comes into view? If we take the humblest street of this form (the serpentine form) it will never fail of interest as we pace it. The old High Streets of Fulham, of Hammersmith or Twickenham, afford familiar instances of our meaning; the new Cockburn Street in Edinburgh (a narrow street of tall houses) affords another. Let the thoroughfare be wide or narrow, let the house be low or high, ugly or handsome, our contention is, it matters not. If we wish to let the sun into our streets, and to make the pacing of them grateful to the wayfarer, let them be planned, wherever it be at all practicable, on the sinuous line of beauty Hogarth traced upon his palette.

Lastly, wherever trees will grow—as they will in all but manufacturing towns—plant trees along the footway, since even the finest works of the architect become dull and uninteresting bereft of the occasional presence of foliage.

ART INDUSTRY IN VENICE.

ACCORDING to the Report of Mr. Consul Smallwood, lately published, a new feature of Venetian industry has been started from the rapidly-increasing demand for imitation of antique furniture in ebony and ivory, for which materials spear wood and bone are successfully substituted. Mr. Guggenheim, a dealer in antiquities, and now the manufacturer of these imitations of antique furniture, has formed a school of workmen whom he furnishes with designs and models. The pupils have succeeded in producing such admirable counterfeits that their master has thrown off the mask, priding himself in the avowed imitations of that which would have passed for the cinquecento with all but the most experienced connoisseurs. England, it appears, is encouraging this trade on a large scale. One of the oldest firms for antiquities, that of Mr. D. Rietti, much patronised by English amateurs, has also adopted the manufacture of imitation of antique furniture.

The ancient brocade tapestry factory of Venice is being revived by the Fratelli Agnino. This fabric existed before that of Lyons, and was then patronised by the Doges for gifts to Eastern potentates, at which time 14,000 hands were employed. Some of the stuffs were of extraordinary texture and beauty, but the secret of the rarest is lost and died with the inventors. An endeavour is now being made to recover some of its splendour. Mr. Layard, Her Majesty's Minister at Madrid, has obtained a successful result in an order executed for him, and the Princess Dolgorouky has been supplied with a brocade tapestry worthy of its past fame. Members of the Royal House of Savoy are being furnished with some of its richest pateras. The cost ranges from 12 fr. to 100 fr. per metre.

In the bronze foundry of Michieli and Co., not only the fine bronze works of Italy peculiar to the fourteenth, fifteenth, and sixteenth centuries are perfectly reproduced in all sizes, but even works of modern art are cast at the option of the sculptor, after the manner and the time of Michael Angelo and Benvenuto Cellini. This way of casting, *a cera perduta*, offers the advantage of leaving the sculptor's idea in its full character, for after the casting the bronze is only cleaned, and no chisel is employed which could injure the sculptor's original invention. Mr. Boehm, the sculptor, not long since had a work of his cast in this foundry.

The Princess Giovanelli and the Countess Marcello have been endeavouring to revive the Burano lacework. The small island of Burano used to be celebrated for its lacework, which, when its importation was prohibited in France, induced the great Colbert to enforce the expatriation of a few lace workers to introduce their lace-point in French manufacture, and hence originated the "point d'Alençon." An aged woman, the last of her craft, who had survived the manufacture, but remembered and still worked at the Burano lace, was found. Through the ladies' energies a school was formed; 67 hands were engaged, but only ten at a time could receive tuition. The immediate demand upon the first specimens was extraordinary. The cost, which is actually about 100 fr. per metre of the width of about 12 centimetres is considered to be under its value. It takes 150 days of five working hours per diem to produce a single metre by one workwoman, her pay being 50 centimes—about 5d. per diem. The "gros point de Venise" is also to be revived at Burano. Dr. Fambri, the distinguished engineer, has published the following estimate of the labour of manufacture of one metre of this lace of a quality never surpassed in ancient times, viz.:—Three months' wages of one hand for the net work; one month's wages of one hand for the flowers; an extra month's wages for the ornamental border. Dr. Fambri suggests that "this industry should be developed, were it only to save the secret of the art."

The Glass Works of Burano, which have been in operation for over twelve centuries, continue to flourish. During the past year the exports amounted to 313,200*l.*, showing an increase of nearly 100,000*l.* The value of the exports to England during the year was 58,800*l.*, and to India 74,400*l.*

ANCIENT AND MODERN MURAL DECORATION.

By MR. THOMAS WHITBURN.

A Paper read before the Artisans' Institute.

MURAL decoration, internal and external, may, in its broadest significance, be said to comprehend the highest achievements of both painting and sculpture; but a more rigid definition might confine it to art which gratifies the eye by graceful, or harmonious, or intricate arrangements of forms, colours, or lines rather than attempts to deceive it by aiming at illusive representations of light, shade, and distance. Decoration, in fact, in the modern acceptance of the term, approximates rather to conventional than to imitative art. It is either subordinate to, or should combine harmoniously with, architecture. It ought, therefore, to be regarded as inseparable from construction; to which it should add interest or beauty without endeavouring to falsify what may be termed the anatomy of the building. Now originally art, in the absence of books, was a kind of universal language, and we find that in some of the most ancient specimens extant—the painted walls of Egypt, and the sculptured slabs of Assyria, the histories of those countries, or the achievements of their monarchs, were traced thereon; whilst in the Egyptian tombs we have pictorial biographies of those whose mummies were therein deposited. Here, then, we have representations of events interesting to contemporaries, as resounding to their honour and glory, and invaluable to us, as recording for our profit the aspects which civilisation assumed in former ages; and, it is important to note, that we are indebted for these records not merely to lucky chance, but to the durability of the materials employed in them. But it must be evident that subjects fitted for temples and tombs might be out of place in private dwellings, and we find in mural decorations of this kind, especially in such as have been disinterred at Rome and Pompeii, that, in place of history or biography, are given imaginative or fanciful delineations of mythological or poetical legends; or even of forms which, until the artist there expressed them, had no previous pictorial existence. For it is the grand privilege of the imagination—a faculty which is one of the many which distinguish man from the brute—to be itself, as it were, a creator; for in Shakespeare's immortal words—

As imagination bodies forth
The forms of things unknown, the poet's pen
Turns them to shapes, and gives to airy nothing
A local habitation and a name.

We find, then, that the best specimens of Pompeian ornament give admirable expression to one important quality in decorative art—playfulness—as indicated by allegorical, or purely fanciful combinations of parts of diverse figures joined in a manner anatomically impossible but poetically significant; and this aspect of decorative art is so intimately connected with the imaginative literature and the culture of Europe that until these are destroyed, or superseded, its existence may be considered co-extensive with, and inseparable from theirs. That admirable principles are expressed in various phases of oriental or exotic art—the development of which has been governed by influences and ideas alien, in many respects, to those which have permeated our own—I willingly admit, but I purpose confining myself this evening to the chief methods which have been employed or have aided in producing mural decoration in Europe.

Now in mural decoration it must be evident that whilst ideas influence the style, climate and locality should, if durability be desired, guide the artist in the choice of his materials. Let us take, for example, that most ancient method of painting with colours mixed with a glutinous vehicle on a ground of plaster, and which in its varieties is commonly known as fresco. This, in the dry and pure air of Egypt, has lasted perfectly for—let us say—three thousand years; whereas on the storm-beaten façades of Venetian palaces it—though inspired by the mighty genius and completed with the perfect executive science of Titian and Giorgione—has perished utterly in three centuries. Again, in his description of “the Italian valleys of the Pennine Alps,” the Rev. S. W. King, speaking of the Church at Riva, says—“The façade is almost covered with fine frescos representing the Last Judgment, painted by Melchiorre d'Enrico, the last of the brothers of that name, celebrated fresco painters of the Val Sesia in the sixteenth century, who were known as ‘I tanzi d'Alagna.’ The purity and dryness of the bracing air of the Upper Val Sesia is shown in the singularly fresh and vivid condition in which these outdoor frescos exist after a lapse of some three centuries.” That our English climate has, with respect to moisture, much more affinity to that of Venice than to that of Egypt or of the Val Sesia needs no demonstration, and I think we may safely conclude that for outdoor mural decoration fresco is a luxury from which we may wisely abstain. Nevertheless, experience proves that for interior decoration fresco, even in this variable climate, may possess very considerable durability. I examined recently the curious and interesting painted vault of the Chapel of St. John in the venerable Parish Church of St. Mary's, Guildford, and came to the conclusion that they are decidedly to be classed as fresco; that is to say, as fresco secco, or fresco painted on a dry ground, not what the Italians term “buon fresco,” or fresco painted on wet plaster. From internal evidence I should say that these were executed about the beginning of the fifteenth century. They are rude and somewhat grotesque in style, but show considerable decorative ability, especially in the application of accessory ornament to fill up certain spaces round the circles which contain the scriptural subjects. Having been whitewashed, when that kind of mural decoration was fashionable, the colour has lost something of its original brightness; indeed, a thin film of whitewash seems still to adhere to the surface, and the blue, doubtless from some defect in the pigment, appears to have faded; but I rejoice to say that there has been no attempt at restoration, and their integrity as a record of art process is thus unimpeachable. Other English examples of fresco, and of tempera, which have stood the test of time might be quoted, especially a valuable series of twenty-four wall paintings of great artistic merit in the Lady Chapel of Winchester Cathedral, representing the Miracles of the Virgin; but the

one I have above cited may certainly, as regards durability, be considered conclusive, as I could detect no symptom whatever of injury from damp.

Taking the Egyptian frescos as examples of decorative work which are worthy of attentive consideration we find that the colours, used in flat washes, were, for the most part, simple, unmixed, unchangeable pigments; the chromatic scale comprising only yellow, red, blue, green, white, and black: all the infinite variety of broken hues, and tints, which are so essential to the truthfulness and beauty of imitative or realistic art, were rejected as detrimental to distinctness which, in pictorial writing, where each figure or symbol has a significance which must at once be apparent, is of primary importance. Of these colours the yellow, red, white, and black being composed of natural earths, lime, and carbon are unaffected by ordinary atmospheric agencies; but the blue being composed of oxide of copper—for the rare and precious ultramarine would only be used in special portions of the work—was more susceptible to slight change; and the green, being compounded of this blue with yellow, might be similarly affected. There seems no reason, then, why in a climate such as that of Egypt these frescos should not last as long as the stones on which they are painted. Here, however, where the atmosphere is not only often surcharged with moisture, but also permeated by injurious gases, and filled with carbon arising from smoke, to say nothing of the dust generated by the ceaseless traffic of great cities, the predisposing causes to decay are far greater; and if the colours do not absolutely change they get covered with a coating of dirt, and become more or less obscured. Indeed damp will, in itself, decompose certain colours, and cause them to lose their vitality as it were; thus enabling deleterious agents to seize on and destroy them. Thus white lead will last in a dry and pure atmosphere even when mixed with size alone; whereas in this climate it will speedily blacken unless mixed with oil or covered with varnish. In order, therefore, to protect tempera pictures, especially in the Netherlands, from injurious atmospheric influences, it was customary, before the invention of what we term oil painting, to give them a hydrofuge coating either of thickened and drying oil or of resin dissolved in oil; and it was in experimenting with these oils and resins that Van Eyck discovered, or perfected, in the year 1410, the oleaginous vehicle which, being mixed with all the colours throughout the picture, from its commencement to its completion, gave them gloss and that durability which is so strikingly apparent in the admirable examples of Van Eyck in the national collection. That oil was used in painting, before Van Eyck's time is certain, but only for portions of a work, or to cover its surface, and not as a vehicle with which to mix all the pigments. It is absurd, therefore, to dispute, as some Italian writers do, his claim to our gratitude as a discoverer; for he assuredly directed the art of painting into a new channel, by means of which, at least so far as imitation of the outer aspect of nature is concerned, its greatest triumphs have been, and must continue to be, achieved. Curiously enough, although the ancients knew that certain oils possessed drying qualities they never employed them for the purposes of oil painting; but they practised one process which, if not absolutely lost, is now, at least, very imperfectly understood, namely encaustic. This was used both for easel pictures and for walls. To the latter it gave a gloss which caused them to shine like mirrors. That wax was the vehicle mixed with the colours is unquestioned, nor is it a mystery that heat was employed to fuse them; but the details of the method, and even in some respects the results, are matters of speculation which, during the last century especially, severely exercised the minds of many ingenious persons, and caused divers experiments to be made by some of the best artists of the time—not always with the happiest result, as certain grievously cracked pictures by Sir Joshua Reynolds unfortunately show. This decay in his works was, however, mainly caused by the imprudent use of a hard drying vehicle over the comparatively soft one of wax, for it is a well known fact that if an inner layer of paint remain soft after an outer layer has dried hard, cracking is the inevitable result, owing to the expansive nature of the softer portion beneath. Now Sir Joshua, in some of his pictures, used wax with his body, or opaque colours, in considerable quantity in order to give what is termed “impasto;” and covered them with transparent, or “glazing,” colours mixed with hard drying varnishes in order to obtain richness. That the effect pictorially was very beautiful cannot be doubted, but the process, in a mechanical sense, was utterly mistaken; and the result has been premature decay. This error of combining incongruous vehicles it is probable the ancients avoided, although from the very few remains of their encaustic painting which have come down to us it is difficult to speak with certainty as to the results. Indeed, so far as I have been able to ascertain, the only fine specimen now existing is in the museum at the Ancient Etruscan town of Cortona. This, which is painted on slate, and represents the bust, somewhat less than life size, of a young and beautiful woman, was found, not many years ago, in one of the many Etruscan tombs which surround the city, by a peasant. Thinking it a portrait of the Madonna, he gave it a place of honour in his cottage; but when the priest assured him that it represented an idol, he used it to stop a hole in the wall. The proprietor, however, of the farm on which it was found, happening to see it, possessed a little more discrimination, and, purchasing it for a trifle, presented it to the museum of the city, with the stipulation that it should never be removed. Not being aware of its existence when I was in Italy I had not the good fortune to see it; but it is said by competent judges to be undoubtedly in encaustic, to be in perfect preservation, and to resemble in quality the finest works of the best period of Italian painting. Granting the authenticity of this picture, and roughly estimating its age at some two thousand years, it must be evident that the mechanical method employed to produce it was a very perfect one indeed. Doubtless the pigments were few in number, were permanent, and were used with a protecting and unchanging vehicle, conditions without which durability would seem to be impossible.

Tapestry can certainly not lay claim to qualities which defy the ravages of time; nevertheless, both in ancient and Mediæval epochs, it was from its beauty, convenience, and portability a very favourite kind of mural decoration; and it is curious to observe how similar the intention, and the effect produced by the ancient workers in this material and those of the

Renaissance would appear to have been. Thus, in that very amusing idyll, or, we may almost say, little comedy, written 2,000 years ago by Theocritus, which describes the visit of the Syracusan gossips, Gorgo and Praxinoe to the Hall of the Palace in which was celebrated the Festival of Adonis, Gorgo exclaims :—

Praxinoe ! see the rich tapestried room !
How exquisite ! sure it was wrought in the loom
Of the Gods !

To which Praxinoe with an evident leaning towards realistic art, rejoins—

And how striking ! how bold the designs !
No pencil could draw such elaborate lines !
Minerva ! they rise above critical strictures !
For what animation enlightens the pictures !
Man 's indeed a wise animal ! See how they move—
Nay, start from the hangings : they cannot be wove !
But look on yon figure : how charming he lies !
All silver the couch, and so vivid the dyes
Of his young downy beard—'tis not hard to discover
The features of Venus's beautiful lover.

This passage would almost seem to have been present in Spenser's mind when he described that "inner rowme" of "Castle Joyeous," where, after the necessary preliminary feat of vanquishing certain opponents, Britomart and the Redcross Knight were introduced to that "Lady of Delight" Malecasta :—

The walls were round about appareled
With costly cloths of Arras and of Tour ;
In which with cunning hand was portrayed
The love of Venus and her paramour,
The fair Adonis, turned to a flower ;
A work of rare device and wondrous wit.
First did it show the bitter baleful stoure,
Which her essayed with many a fervent fit,
When first her tender heart was with his beauty smit.

Of the manner of treating this subject in Spenser's time we may obtain a sufficiently accurate idea from the picture of Venus and Adonis in the National Gallery, and attributed to Titian. When first produced, no doubt these "costly cloths," as Spenser terms them, had a very rich and splendid decorative effect ; though the specimens which have come down to us have now a somewhat grim and ghastly look, chiefly owing to the fading of the colours used to form the flesh tints, as may be seen in many that are preserved at Hampton Court and elsewhere. But despite this drawback, considerable interest must always be attached to tapestry from the very curious facts that some of the most famous productions of art—the cartoons of Raphael—were designed merely as patterns for this material ; and that they were afterwards thrown aside, and some of them lost, as valueless, from having fulfilled this function. If we wanted a convincing proof of the decorative office filled by art in its palmiest days this alone would suffice. There is no protest of Raphael on record against the most sublime productions of his genius being used as patterns for decorative hangings. Another, and more evanescent mode of producing designs on cloth for adorning walls deserves a passing notice, if for no other reason than that it is mentioned by Shakespeare in that wonderfully humorous first Scene of the second Act of the second part of "King Henry the Fourth," where Dame Quickly, alarmed lest her debtor, Sir John Falstaff, should not return from the war, seeks to secure him ere going by means of Messrs. Fang and Snare. But the unscrupulous knight not only persuades her to abandon this design but actually cajoles her into advancing him more money. Dame Quickly, to this modest request, says :—

By this heavenly ground I tread on, I must be fain to pawn both my plate and the tapestry of my dining-chambers.

To which Falstaff, quite equal to the occasion, replies :—

Glasses, glasses, is the only drinking ; and for thy walls—a pretty slight drollery, or the story of the Prodigal, or the German hunting in waterwork, is worth a thousand of these bed-hangings, and these fly-bitten tapestries."

Now "the story of the Prodigal" speaks for itself, but this "German hunting in waterwork" is, there can be no doubt, an allusion to a method formerly in vogue for producing cheap imitations of tapestry by means of painting in transparent water-colours on "closely woven linen saturated with gum water." The effect must have resembled very thin tempera painting, and it was obviously ill calculated long to resist either humidity or dirt.

Let us turn now for a moment from the most evanescent mode of mural decoration to the most durable—mosaic. This may really be termed painting for eternity, for to it all ordinary causes of decay seem to be absolutely innocuous, and nothing but the absolute destruction of the building to which it is applied can ruin it. Of all the chromatic modes of mural decoration it is the most essentially architectural, and it is the only pictorial method that can vie in permanence with sculpture. The time and expense necessary for its production on a large scale must always limit its use to buildings of national importance, but in these it ought undoubtedly to be used wherever chromatic effect is desirable, especially in such situations as are sufficiently removed from the eye to conceal its inevitable lack of delicate gradations in hue and shade. It is gratifying to observe that this very grand and beautiful style of architectural decoration is now gaining ground amongst us. There is no other that is better calculated to foster the finest and most permanently valuable qualities of design, and in a climate such as ours there is certainly none which offers so many obstacles to injurious atmospheric influences.

(To be concluded in our next.)

Captain Douglas Galton, C.B., of the Office of Works, Sir John Lubbock, and Mr. C. T. Newton, F.R.S., the Keeper of the Greek and Roman Antiquities in the British Museum, are to receive the Honorary Degree of D.C.L. at the next Oxford Commemoration.

ENGRAVING IN PARMA.

THE Report of the English Consul at Florence, Mr. Dominic Ellis Colnaghi to Earl Derby, contains in the appendix some interesting information respecting the well-known School of Engraving founded by the late Cavaliere Paolo Toschi, under whose direction the great work of engraving the Correggio frescos was commenced, now ably carried on by his successor, Professor Carlo Raimondi.

The art of engraving, it may be said, almost from its origin, was cultivated in the city of Parma ; for whether the discovery of etching be due to Parmigianino (Francesco Mazzola), or to Albert Durer, it is not disputed that the former first practised the method in Italy. Mazzola was accustomed to use two copper plates, with the first printing a half tint, leaving the lights in white, and, with the second, applying vigorous shadows on the previous half tint. While Parmigianino became more celebrated as a painter than an engraver, the year 1523, when he left Parma for Rome, witnessed the birth of another artist, Enea Vico, whose merits induced Pietro Aretino, though not without exaggeration, to prefer him to Marc Antonio. Vico was succeeded, towards the close of the century, by Sisto Badalocchio, who, with the assistance of Giovanni Lanfranco, engraved the Loggie of the Vatican, and, without help, part of Correggio's great Cupola. Giulio Bonisoni and his pupil Giacomo Fogaroli, both of Borgo San Donnino, Giacomo da Parma, who may, perhaps, be recognised in Jacopo Berioia, a distinguished follower of Mazzola ; Oliviero Gatti of Piacenza, who was a pupil of Agostino Caracci, another great painter and engraver combined ; and, finally, Battista Pensier or Panzera, a calligraphist and bookseller, whom Dolce styles an excellent worker, complete the list of the principal engravers of Parma who flourished in the sixteenth century.

Smeraldo Smeraldi, the illustrious engineer, who is known to have used the burin, forms a connecting link between the foregoing and the seventeenth century, in which the engravers are greater in number, if not in merit, than their predecessors. The most remarkable among the twenty-five of whom there are records, were :—Domenico Maria Fontana and his daughter Veronica, Angelo Falco, Mauro Oddi, Guglielmo Leoni, Don Filippo Ivana, and Ugolino da Parma ; to whom may be added Girolamo Imperiali, a Genoese nobleman, who studied at Parma and became a proficient in painting and engraving.

In the eighteenth century, the number of engravers increased to thirty-nine, among whom were Giorgio Giacomoni, who was also a landscape and miniature painter, Giuseppe Patrizi, and last but not least, Pietro Martini. The indefatigable Prevetot and the versatile Briscianai worked on into the nineteenth century, in the second decade of which Parma was to be no longer the home of isolated engravers, but the centre of a homogeneous school of art.

Paolo Toschi of Parma returned to his country about 1819, after a long residence in Paris, where Bervic had taught him engraving, and Oortman etching. Although he had hardly attained his thirtieth year, Toschi was already well known in his profession, and soon undertook, or received commissions, to engrave classical works which required not only the help of his friend and colleague Antonio Isaac, who died young, but the assistance of pupils who soon crowded his studio during the whole period of his teaching, to the number of sixty-five. In a few years' time, surrounded by talented scholars, the master was able not only to conceive the idea, but to commence the execution of his greatest work, the engraving of Correggio's frescos, before time and neglect should have completely destroyed them.

The difficulties to be encountered in this enterprise, owing to the vastness of the compositions, the curved surfaces on which, for the most part, the frescos were painted, the want of light, the foreshortening, the characteristic style of the painter, some of whose greatest beauties and most masterly effects are produced by means of the boldest and seemingly irregular touches, would have sufficed to check the ardour of less persevering artists than Toschi and his associates, who, from long study, had thoroughly imbued themselves with the spirit of the master's work. The means, however, to carry out the project were wanting, State assistance was needed, and Toschi, then Director of the Academy of Fine Arts, was commissioned by the Government of Maria Louisa to copy the frescos in water colours. He commenced the work with Professor G. B. Callegari, C. Raimondi, and others, and, for several years, the artists patiently ascended the lofty scaffolding placed under the Cupolas of the Duomo and the Church of S. Giovanni, until the drawings were completed. In 1844, the circular announcing the intended engraving of the celebrated frescos was issued. For ten years Toschi and his assistants, at one time eighteen in number, worked indefatigably until, in 1854, when twenty-three plates were finished and twenty-two published, the master died almost suddenly.

All doubt as to the continuation of the series was, however, set at rest by the disinterested acceptance, by Professor Carlo Raimondi, of the propositions of the Government of Parma, but the work languished, having the assistance of only five engravers, until, by a decree of 1860, C. Farini, Governor of Emilia, established a superior school of engraving at Parma, under Raimondi, who at the same time, for the completion of the great work, was given an increased number of salaried assistants, among whom were the Cavaliere Bigola, now professor of engraving at the Accademia Albertina of Turin, and Professor Dalco.

The total number of plates in the series will be 48 ; of these, in 1873, 35 were already published from the works of Correggio, in the Duomo 1, in the Church of St. Giovanni 12, in the Monastery of St. Paolo 16, in the SS. Annunziata 1, and in the Gallery 1 ; and from the frescos of Parmigianino, in the Church of St. Giovanni 4.

ROMAN EXCAVATIONS.

THE Roman Architectural Commission have published a detailed account of the discoveries made during the year 1874. It appears from this that there have been discovered :—17 statues, 10 torii or busts, 5 sarcophagi or funeral urns, 12 *ex voto* or other religious objects, 6 engraved precious stones, 12 *bassi-relievi* in bone or ivory, 5 gold or silver ornaments, 8,926 medals or coins of copper, 39 inscriptions, and a large number of domestic utensils.

THE PROTECTION OF BUILDINGS FROM LIGHTNING.

THE following instructions as to the application of lightning conductors have been issued by the War Department.

In considering the application of conductors for the protection of buildings, it should be understood that the terminating plane of the action of lightning is sometimes beneath the surface of the ground, where, from the presence of moisture, the earth forms a good medium for the diffusion of electricity.

Light, dry soil, such as shingle and sand, or even ordinary vegetable soils when in a dry condition, may, for the present purpose, be regarded in most cases as non-conducting matter resting upon the electric surface of the earth.

Lightning conductors should therefore invariably be continued through these intervening substances into soil which is permanently damp.

Copper is recommended by the late Sir William Snow Harris as the best material for lightning conductors. It possesses great conductivity, is not liable to corrosion, and is very durable.

Where, however, conductors are exposed to mechanical injury or are liable to be stolen, and where attendant circumstances are not such as to promote corrosion, iron may be employed, using proportionately larger dimensions to provide for its smaller conductivity, which is only about $\frac{1}{3}$ th that of copper.

Copper lightning conductors should be of the following dimensions: rod's, $\frac{1}{2}$ inch in diameter, tubes $\frac{1}{2}$ inch in diameter and $\frac{1}{4}$ inch thick, or bands $1\frac{1}{2}$ inches wide and $\frac{1}{4}$ inch thick.

Iron lightning conductors should be either solid rods 1 inch in diameter, or bands 2 inches wide and $\frac{3}{8}$ inch thick.

In deciding upon the metal to be employed in any system of lightning conductors, the relative qualities of the two metals, copper and iron, must be weighed in connection with the circumstances of each particular case. Copper possesses higher conductivity, and is less liable to injury from corrosion, but it is very much more expensive, more liable to mechanical injury, and more likely to be stolen. Its fusing temperature (1,994° Fahrenheit) is much lower than that of iron.

The fusing temperature of iron is 2,786° Fahrenheit. In this respect it has a marked advantage over copper, but it readily becomes rusty, and when rusted its electrical resistance is immensely increased. Roughly speaking, an equal amount of conducting power may be obtained in iron and copper for the same cost, the number of conductors purchasable for the same price in the former being far in excess of those in the latter metal, and in suitable positions the more numerous conductors would, no doubt, provide perfectly efficient protection.

In applying lightning conductors, the expansion and contraction of the metal must be provided for, especially at points where two lengths of metal are joined together. This may be done by introducing suitable bends, at intervals, in long lines of horizontal conductor. In vertical lines, and in some cases in horizontal lines, the effect of expansion and contraction may be sufficiently provided against by giving freedom to slip through the bearing collars. Soldered or welded joints are not absolutely necessary, but they should be employed where practicable. Soldered or welded joints should be employed in all positions where the brush or discharge, which might occur with unsoldered joints, would be liable to ignite dust or any inflammable substance.

Iron rods may be welded or connected by joints, similar to those recommended for copper conductors, or by screw junctions such as are used in forming the connections of gas-pipes, the end of the rod inserted into the socket being equal in length at least to its diameter, but no white lead, which is a bad conductor of electricity, should be made use of in the joints.

Flat iron bands, where welding is not considered advisable, may be connected by rivets or screws working in slots to allow for expansion and contraction; each of the surfaces in contact should be of at least six times the sectional area of the band.

Copper bands should be connected by rivets or screws working in slots, and with similar precautions as to the area of the surfaces in contact. Joints between different metals may be soldered, screwed, or rivetted, the extent of the surfaces in contact being regulated by the dimensions of the metal possessing the least conducting power. In all cases of contact between two metals, precautions should be taken to prevent access of moisture, which would induce local galvanic action with its attendant metallic decomposition.

It is not possible to assign the precise limits of the protecting power of conductors. The French philosophers formerly considered that they afforded protection over a circle whose radius was equal to twice their height; but in England, the limit is usually considered the radius of their height from the ground. This may be sufficiently correct for all practical purposes; but such a radius of protection cannot always be relied upon.

Conductors of themselves have no attraction for lightning, which seeks them only on account of the facility they afford for the combination of the opposed states of the electricity of the clouds and of the earth beneath them, separated by the atmosphere, which is a bad conductor. A lightning conductor, buildings, trees, or any object on the surface of the earth, is only to be regarded as diminishing the resistance due to the air. When an electrified cloud is passing over the earth and its potential is just counteracted by the resistance of the air, a body, however small, which reduces this resistance, will cause a discharge. Even a change in the nature of the soil over which the cloud is passing may have this effect, and it is very frequently produced by a fall of rain.

From this we may conclude that the angle of a building which a thunder-cloud approaches, may receive the discharge, while another but more distant angle is provided with a conductor; and that, for important build-

ings containing explosive materials, every prominent elevated part ought to be provided with a lightning conductor.

For a building of uniform height, a solid rod, pointed and rising not less than 5 feet above it, should be provided at each end, and at intervals of about 15 yards along its length. When the rod is of iron its point should be gilt.

Small simple buildings, not exceeding 20 feet in length, may be protected by one vertical conductor at the end, the point rising not less than 5 feet above the ridge of the roof; a horizontal conductor should be provided on the ridge.

A building from 20 feet to 40 feet long should be protected by one vertical conductor in the centre of its length, with a horizontal conductor on the ridge.

A building exceeding 40 feet in length should have two, and if exceeding 100 feet in length, three conductors.

Larger and more complicated buildings should be protected upon similar principles.

A fork, or brush of three or four points instead of one, has been recommended for the top of a lightning conductor, the practical value of this arrangement is not apparent unless the points are widely separated; but for a single rod on a prominent point, this construction may be adopted. All parts of buildings which are of marked elevation and prominence should be fitted with a lightning conductor.

Where several lightning conductors are used in a single building, they should be connected horizontally. Such connection may be conveniently effected along the ridge or eaves. When the ridge covering or eaves gutters are of metal, they should invariably be connected with the system. All metal surfaces, whether lead, copper, or iron, in ridges, roofs, gutters, or coverings to doors or windows, should be connected with the conducting system.

The relative conductivity of the ordinary metals used in building, is given by the late Sir William Snow Harris, as follows:—

Lead.	Tin.	Iron.	Zinc.	Copper.
1	2	2 $\frac{1}{2}$	4	12

Lead, on account of its low conducting power, cannot be altogether depended on, and this must be carefully considered in connecting the lead, used in a building, to the system.

Long lengths of horizontal conductor, without sufficient intermediate earth connections, must be avoided. Should there be any failure of continuity in such a conductor without intermediate earth connections, the current might leave the conductor and pass to earth by the most favourable course, and this would be attended with danger. Sharp angles in conductors are objectionable.

Good earth connections are most important. Any fault in the earth connection itself manifestly impairs efficiency, and a very bad earth connection is a source of absolute danger. Lightning conductors should, where practicable, be led into springs or wells of water, or into ground which is permanently wet. The sea or any large body of water, except a water-tight tank, forms an excellent earth connection. Shingle, dry sand, or ordinary vegetable mould in a dry condition, are not efficient connections, and lightning conductors should invariably be led through these into ground that is permanently damp. Several earth connections should always be provided in all large systems of lightning conductors, so that, should one be defective, the discharge may be effected through the others.

Conductors should be led into moist ground by means of a trench or trenches extending to a depth of at least 18 inches below the surface, and in which a length of not less than 30 feet of metal should be in actual contact with moist earth.

Where practicable, it is desirable to lead a flow of water, from the down pipes from the roof, over the ground in the vicinity of the lightning conductors and earth connections.

Where a lightning conductor terminates in rocky, or more or less dry soil, special precautions are necessary: it should be led into a trench, so disposed as to obtain all the moisture possible from the ground. These trenches should extend from its foot to distances of from 10 to 40 yards, according to the amount of moisture.

The connections in the trenches may be of railway or other old iron formed into a continuous metallic surface, the trenches being filled up with cinders or coal ashes, and the water from the down pipes being led over them as already recommended. Water-pipes form excellent earth connections, but gas-pipes should never be used for this purpose, instances having occurred where a heavy lightning discharge has damaged the gas-pipes and lit the gas.*

Lightning conductors should be frequently inspected, to ascertain that they are in perfect condition and properly connected with the earth. Particular attention should be paid to the joints, especially when they connect different metals. It must be borne in mind that in the case of an iron rod or band, the metallic portion only can be looked upon as efficient, oxide of iron being a very inferior conductor.

In order to obviate the ill effects of rust, iron employed in the construction of lightning conductors should be galvanised. When galvanised iron is used, particular care should be taken to see that the coating of zinc covers the conductor thickly and effectively; damp would produce galvanic action and the zinc in the vicinity of the smallest exposed iron surface would be quickly decomposed. Should it be necessary to bring the zinc coating in contact with other metals, and especially with copper, every precaution should be adopted to exclude moisture, for the above reason.

FRED. E. CHAPMAN,
Inspector-General of Fortifications.

* A remarkable accident of this nature occurred at Halifax, Nova Scotia, in the summer of 1871, during a heavy thunderstorm, the electric discharge, in traversing the gas-pipes of the old Provincial Buildings, fused a portion which was composed of white metal composition, near the metre in the basement, and lit the gas, by which the buildings were nearly set on fire.

ILLUSTRATIONS.

LUDDENDEN FOOT CHURCH.

THIS church has been built by the RAWSON family, of Sowerby, as a memorial of the late Mr. W. H. RAWSON and MARY his wife. The site it occupies is a commanding one, high on the somewhat steep slope of one of the hills which stretch along the picturesque valley of Luddenden, and immediately over the station and village of Luddenden Foot. The church is capable of accommodating 540 persons, and consists of a nave 75 feet by 24 feet, divided from each aisle by four bays of pointed arches on columns (which are alternately octagonal and circular on plan); height to wall-plate 22 feet, and to ridge 41 feet; aisles, 12 feet; transepts, 18 feet wide; the chancel, 33 feet by 18 feet. The roofs are opened timbered with blue tinted plastered spaces between the stained and varnished rafters. The organ chamber is under the tower on the north side of the chancel; over it is the ringing loft, then the clock chamber. The tower is square on plan to a height of 60 feet, and it is then splayed into an irregular octagon, with belfry windows on the wider sides, over which rises the spire 126 feet high surmounted by a wrought-iron richly gilt cross. The stone used was from local quarries—namely, Nab End, with the dressings in Fore Lane. The four-light west window is filled in with POWELL's quarried glass, whilst the three windows in the chancel have stained glass by Messrs. HARDMAN, of Birmingham. The church is warmed by the high-pressure system supplied by Messrs. PERKINS, of London, and can be lighted with gas, the jets for lighting the nave and aisles being arranged round the top edge of the abacus of each column. The other fittings include encaustic tile floors by SIMPSON, of London, a Caen stone pulpit by MAWES, of Leeds, a lectern by COX, of London, and a font which is supplied at will with water from the higher ground outside.

The architects were Messrs. PARR & STRONG, of Finsbury Square, London, with Mr. RIDGWAY as clerk of works. The contractors were Messrs. SIDDALL for the masonry, and Mr. HAIGH for carpenters' and joiners' work.

DESIGN FOR THE CARDIFF AND COUNTY CLUB.

OUR last year's volume contained a critical description of the designs submitted in competition for the Cardiff and County Club, just now in course of completion under the direction of Messrs. WILSON & WILLCOX, architects, of Bath. We give this week a photolithograph of the design submitted by Mr. BLESSLEY, a local architect.

NEW ANTE-ROOM, ST. VINCENT'S HALL, CLIFTON.

THE room is a part of a large addition recently made to St. Vincent's Hall, Clifton, the seat of Mr. W. K. WAIT, M.P. The old house was built about forty years ago in the Italian style prevalent at that time. The new part of the interior is treated more in accordance with modern ideas, and yet is designed to harmonise with the old work. The arcade shown at the side is glazed, to separate the ante-room from the conservatory. The stone-work used in the interior is of Bath stone; the shafts of the arcade are of red Mansfield; the chimney-piece is of Painwick stone. The whole of the woodwork is of varnished pine, picked out with lines in dark stain. The whole of the walls will be decorated in distemper. Messrs. PONTIN & GOUGH, of Bristol, are the architects.

DESIGN FOR CLOISTER TO PUBLIC BUILDING.

THIS design has been reduced from the drawings by Mr. W. TALBOT BROWN, of Northampton, which obtained the prize last year from the Architectural Association. The cloister was supposed to be built in stone and covered with red tiles, surmounted by a lead cresting. The tracery part of the arcade would be filled with lead lights and tinted glass. The figures might be the Kings and Queens of England and the sculptures in the gables the Arts and Sciences. The main timbers that are exposed would be of oak and moulded, the hidden timbers, such as rafters, &c., would be deal.

THE NEW NATIONAL OPERA HOUSE.

IN the *Architect* of May 22 we gave a notice of the commencement of the works in connection with the erection of the New National Opera House on the Thames Embankment, at Westminster, the designs for which have been furnished by Mr. F. H. Fowler, of the firm of Fowler & Hill, of Serjeant's Inn, Fleet Street. We have since had an opportunity of inspecting Mr. Fowler's design, and may state that when completed the building will be worthy of the site. The style which has been adopted is French Italian, and the Embankment façade, which will be the principal elevation in the building, is a bold and ornamental feature in the structure. The entrance will be under a colonnade, and above what may be regarded as the ground-floor of the structure rise two lofty storeys, containing a range of ornamental arched windows, around which will be a profusion of sculpture, whilst surmounting the cornice and frieze there are also several full length figures representing lyric and musical art. At each angle of the elevation there are gables richly sculptured and decorated, and an ornamental dome

rises above the central portion of the roof. The design also shows an arcade at the western angle of the elevation, but in consequence of some difficulties which have interposed as to the purchase of property required for giving sufficient depth to the building, and at the same time preserving a spacious area in front of the Embankment, it has been found necessary to eliminate this portion of the design.

The original intention was to have an area in front of the building 70 feet in depth, so as to give greater effect to the structure, and afford ample carriage approaches; but this has now been abandoned in consequence of the price asked for the property required to be purchased being so much beyond its real value, and the architect has been instructed to prepare other drawings adapted to the land which the promoters of the building have purchased from the Metropolitan Board of Works. This unavoidable alteration will limit the area in front of the building to 30 feet, instead of 70 feet as at first proposed. The insufficiency of the depth of ground, arising mainly from the cause just named, will also prevent another important feature in the structure from being carried out. The intention was to have followed the example of the new Opera House at Paris, by placing the staircases of the building within the vestibule, but under existing circumstances this intention cannot, unfortunately, now be realised. The elevation on the south-west side, where there will be a street giving direct communication between the Embankment and Parliament Street, will also be of an ornamental character, although of course much more unpretending than the main frontage. We shall take an early opportunity of illustrating the building when the architect has produced his altered design of the Embankment approach, owing to the causes stated above. Meanwhile to do so would be premature, inasmuch as the present frontage design will not in strictness be carried out.

As regards the capacity and general interior features of the structure, it may be stated that the building will cover a ground area of about 190 feet by 200 feet, and will have accommodation for an audience considerably in excess of any existing building of the kind in the metropolis, being about one-third larger than Covent Garden. It may, indeed, be added that the interior auditorium dimensions are nearly the same as those of La Scala, at Milan, which is considered one of the largest opera houses on the continent. The drawings, in many of their details, have not yet been finally agreed upon and settled, and we are therefore not enabled to give full particulars as to all the interior arrangements of the building, but we may state that an elongated horse-shoe form has been adopted, and that the foyer, or grand saloon, will be on a level with the ground tier, and will be upwards of 100 feet in length.

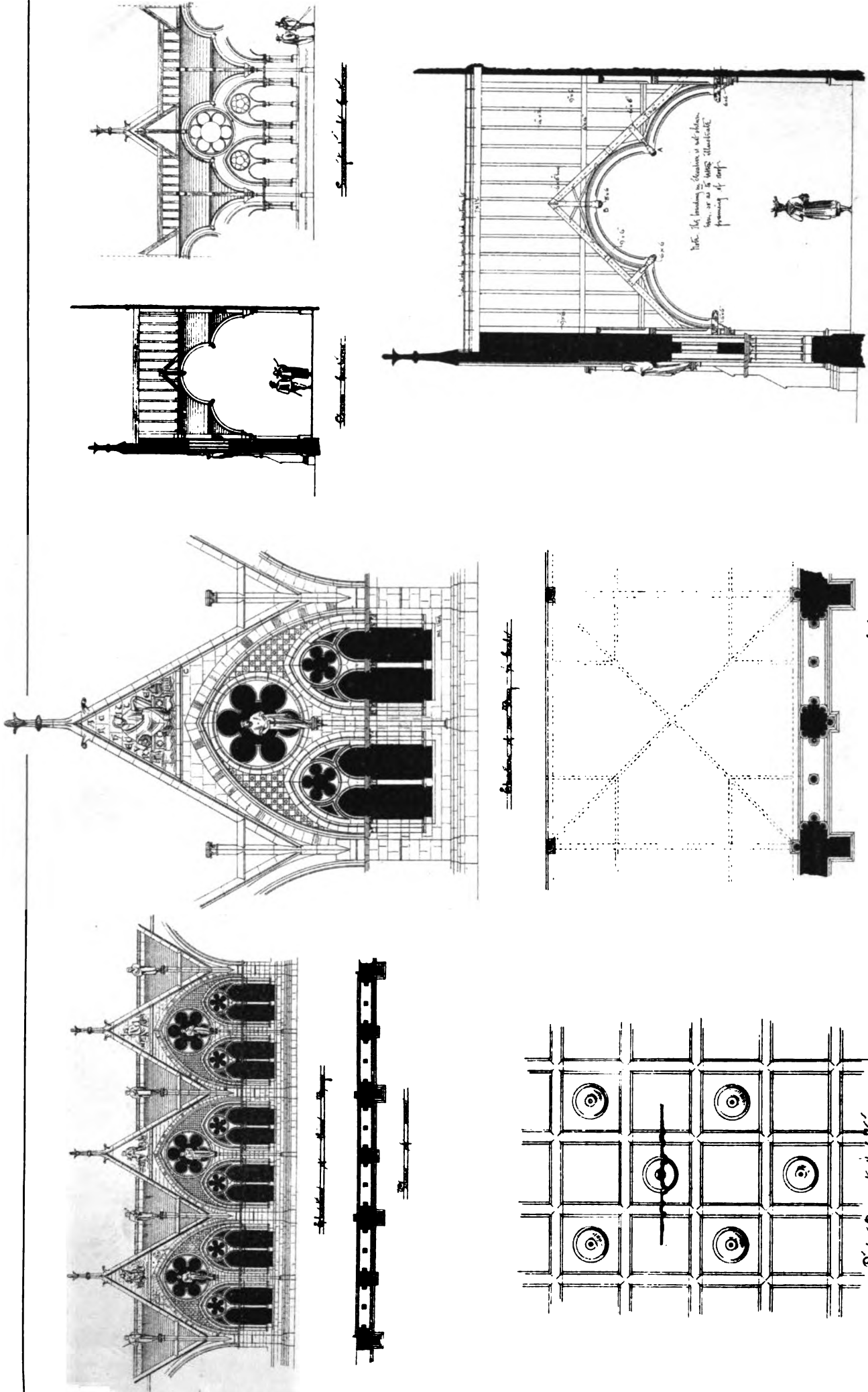
In our former notice we stated that Mr. Webster, the contractor, had commenced the excavations for the foundations, and this portion of the work is now actively proceeding, there being a large number of men and several carts and horses engaged in the work. Already some hundreds of cubic yards of earthwork have been removed, but an enormous amount of labour will yet be necessary before the superstructure can be proceeded with. The probability is that the peculiar nature of the substratum will require an excavation to the depth of at least 30 feet, and that the London clay will be arrived at before the concrete at the basement can be put in. It is, however, confidently expected that this will be effected in about a month from the present time, and that the foundation stone will be laid shortly afterwards, with considerable ceremony, by his Royal Highness the Prince of Wales.

THE SCULPTURE AT THE NEW GOVERNMENT OFFICES.

AN interesting series of sculptured heads is now in progress at the new Home and Colonial Offices in Parliament Street, and several of them are already completed. The heads, which are nineteen in number, are placed within the arches of the first-floor windows in Parliament Street, with the exception of two, which are respectively at the angles of the Charles Street and Downing Street frontages. Those in the central portion of the building, three in number, represent ancient English kings, as also the two at the Parliament Street and Charles Street angles, and two at the Parliament Street and Downing Street angles, whilst six on each side of the central portion of the Parliament Street elevation represent persons distinguished in the State, philosophy, literature, the fine arts, and engineering.

Among those already finished, in addition to the ancient kings, are figure-heads representing Chief Justice Gascoigne, Sir Joshua Reynolds, Lord Bacon, Sir John Sinclair, Watt, and Adam Smith. Each of the figures is carved out of a circular block of stone, 3 feet in diameter, left for the purpose, and on either side of the figures are elaborately carved spandrels. The sculptors are Mr. H. H. Armstead, A.R.A., and the late Mr. J. B. Philip, who have executed the whole of the sculpture on the façade of the building. The ancient kings in the centre, and the whole of the figures in front of the Colonial Office portion of the structure bounded by Downing Street, are the work of Mr. Armstead, whilst those in front of the Home Office Department, from the centre part of the building to Charles Street, were designed and modelled by the late Mr. Philip, and are being carried out by that artist's representatives. With the completion of these figures the building will be externally finished, and we learn that the two departments for which the structure has been erected will take possession within a few weeks from the present time, the interior of the building having for some time been ready for occupation. The north, or what may be called the Downing Street block, will be exclusively occupied by the Colonial Department, but the southern portion to the Charles Street boundary will not only be occupied by the Home Department, but also by the Local Government Board.





---Cross Section, showing Roof, etc.---
---Scale---

---Section of cloister, showing Roof, etc.---
---Scale---

---Section of cloister, showing Roof, etc.---
---Scale---

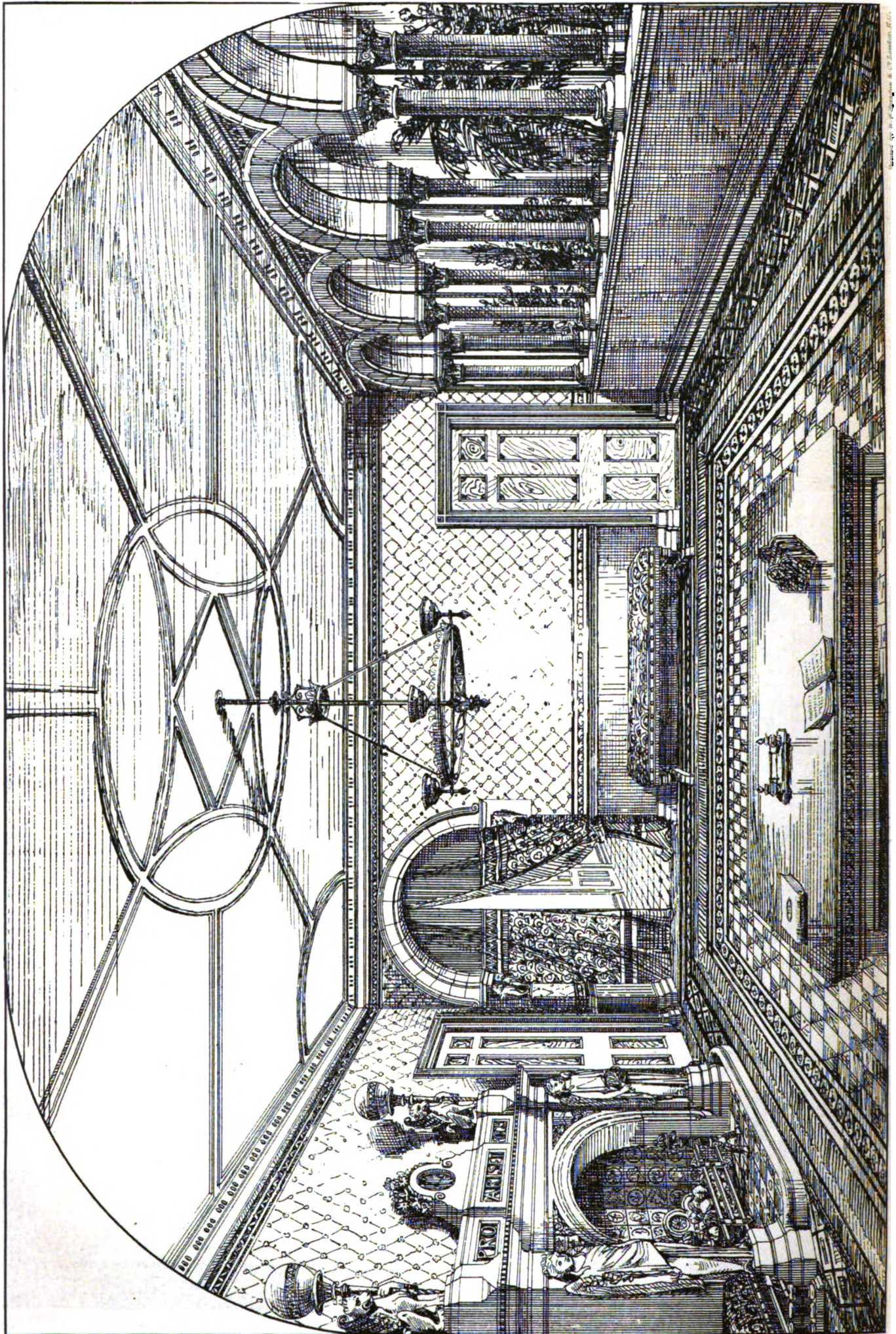
---Section of cloister, showing Roof, etc.---
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---Section of cloister, showing Roof, etc.---
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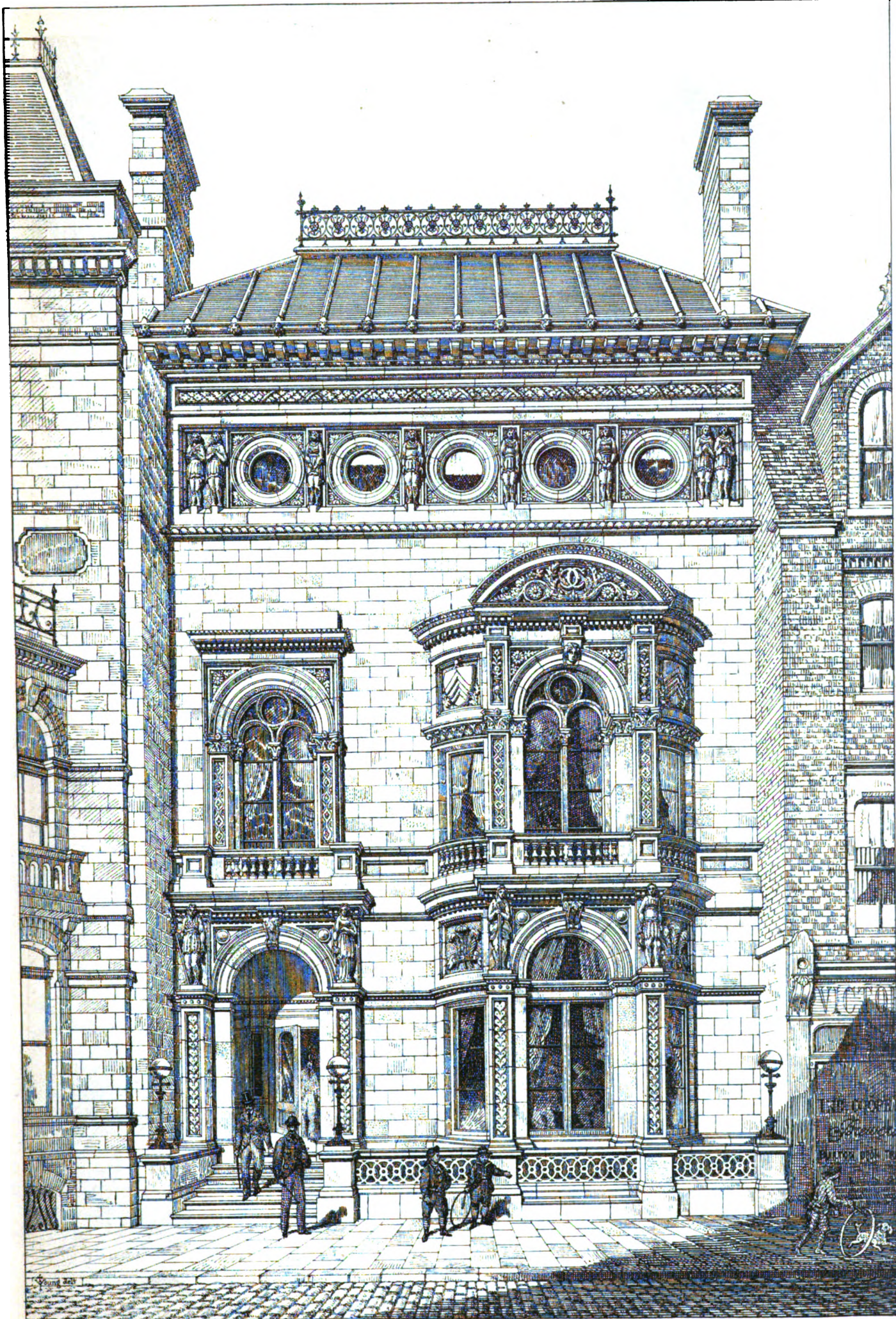
DESIGN FOR A CLOISTER TO A PUBLIC BUILDING.
BY W. TALBOT BROWN.

Drawn by W. Talbot Brown & Co. London E.C.





ANTE ROOM TO ST. VINCENTS HALL. CLIFTON.
MESSRS PONTON & COUCH, ARCHITECTS.



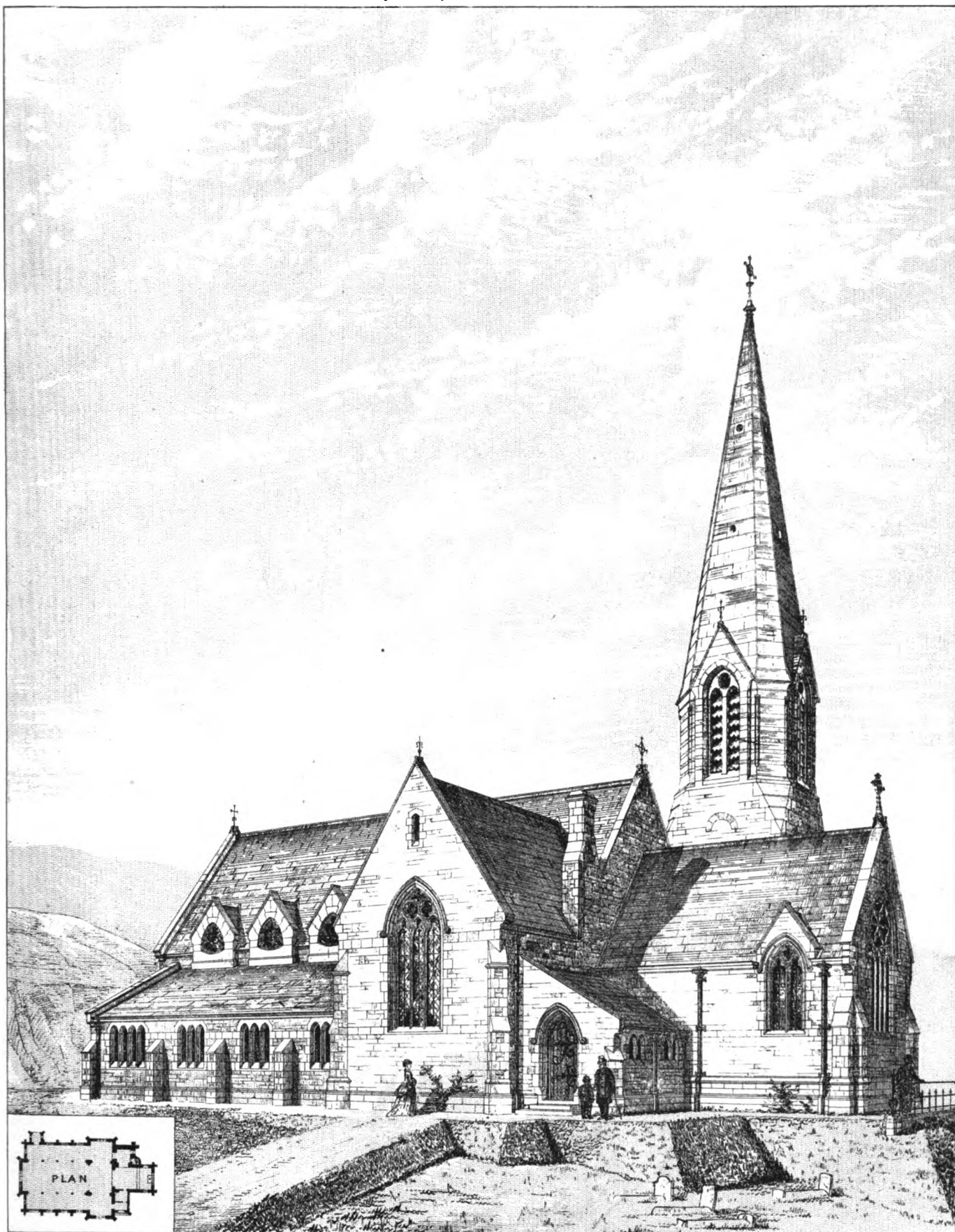
Engraved by W. W. Wynne & Co. London, W.C.

DESIGN FOR THE CARDIFF & COUNTY CLUB.

W. DOUGLAS BLESSLEY, ARCHITECT.



The Architect, June 5th 1875.



Printed by W.W. Symonds & Co. London, E.C.

ST. MARY'S , LUDDENDEN FOOT .

MESSRS PARR & STRONG , ARCHITECTS



THE ARCHITECTURAL ASSOCIATION.

At the ordinary fortnightly meeting held on May 28, Mr. G. H. Birch, President, in the chair, Messrs. R. Foster and H. B. Buckley were elected members. A vote of thanks was accorded to Mr. Robins and the Rev. Benjamin Webb in recognition of the facilities afforded by them on the occasion of a recent visit paid by the members of the Association to the choir schools attached to the church of St. Andrew's, Wells St., &c.; the Chairman stating that the courtesy of the Rev. B. Webb in permitting the members to inspect a large number of interesting objects in the adjoining building was much appreciated.

A Paper was then read by Mr. RICHARD MORELAND, jun., C.E., entitled, *Notes on Wrought and Cast Iron Girders, &c.*,

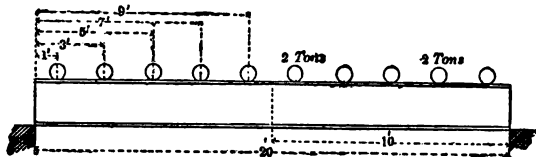
from which we take the following:—

Relative Strength of Girders.—The relative strength of a girder depends on the way in which it is loaded and supported; when supported at one end and loaded at the other, the relative strength being taken as "1"; the second case, when supported at one end, and the load equally distributed, the relative strength being "2"; the third case, when it is supported at both ends, with the load in the centre, the relative strength being "4"; and the fourth case, when it is supported at both ends, with an equally distributed load, the relative strength then being "8." The girder, with an equally distributed load, supporting twice as much as with a central load.

The relative deflections of the girder in these four positions are:—

- (1). Supported at one end and loaded at the other, the relative deflection is "128."
- (2). Supported at one end and load equally distributed, the deflection is "48," the load at the end producing a relative deflection 2·7 times the other.
- (3). When supported at both ends and loaded in the centre, the relative is "8."
- (4). When supported at both ends and the load equally distributed, the relative deflection is "5," or, in other words, the deflection of a girder, supported at both ends, with an equally distributed load, is $\frac{5}{8}$ of that of a girder of the same length, with half the same load applied at the centre of that girder.

Proof may be given that a girder will carry double the load if equally distributed that it will if it be in the centre. Let the whole load of twenty



tons be divided into ten parts of two tons each, then the centres of gravity of those on one side of the centre of the girder will be 1, 3, 5, 7, and 9 feet respectively from that end, and the reaction on that abutment will be those distances multiplied by the weight of each of the two-ton weights, and + by the whole length. These reactions will be 1·9, 1·7, 1·5, 1·3, and 1·1, these together = 7·5; the reactions on the other abutment from these same weights are 1, 3, 5, 7 and 9 = 27. But there are also weights on the other side of the centre which will give equal reactions, and will transfer 2·5 tons to the left hand abutment, and 7·5 tons to the right-hand abutment, so that each will have ten tons discharged upon it by the twenty tons equally distributed load on the girder. Now, the strain at the centre of the girder may be found by the following equation:—

Let x be the distance from the right-hand abutment to the centre.
 n the distance of the left-hand abutment from any particular weight.
 l the whole length of the girder.
 d the effective depth.
 s the flange strain, then $\frac{1}{2}wx =$ the momentum of the force round the

neutral axis = $d s$, then $s = \frac{1}{2} \frac{w x^2}{d l}$. This formula applied to each weight will give the following amount in tons strain acting upon the flange, 8, 2·4, 4, 5·6, 7·2 = 20, but the weights on the other side will give similar and equal strains, then $20 \times 2 = 40 Q E D$.

The foregoing remarks on the relative strength of girders have reference only to their theoretical conditions, and not to the actual weight of the girder itself. Of course, it is important in large structural girders that the weight of the girder itself should be considered as a portion of its load.

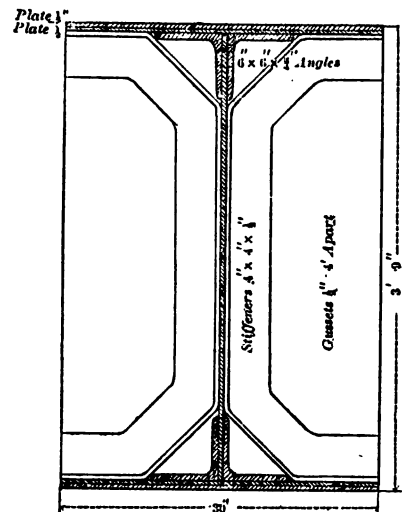
Wrought iron plate girders have merely a web and two angle irons at each flange; the depth may vary from 12 inches to 3 feet. Of course they can be made of a less depth than 12 inches, but then they are in comparison with rolled iron girders, and it is then a matter of judgment which should be used. The web may be varied in thickness from $\frac{1}{8}$ to $\frac{1}{4}$ inch, or for the deeper girders, it may be thickened to $\frac{3}{4}$. The angle irons may vary from $3 \times 3 \times \frac{3}{8}$ to $6 \times 6 \times \frac{3}{8}$. These girders for light loads are rigid and simply constructed. They do not require stiffeners up to 15 inches; beyond that they require stiffening according to their length and depth, and the way in which the load is distributed upon them. The portion of the web nearest the flanges partakes to a certain extent of flange strain, and may be taken into calculation for the flange area. Where the girder supports floors on either side of it, the upper flange may be kept nearly level with the top of the joists, the floor boards being laid immediately over; the girders being thus immersed in the construction are stiffened sideways. Tie rods should be carried from girder to girder through the web, and then into the wall, as the mere fastening of the timbers to the girder is not sufficient to take

side strains. The rivet holes securing the angle irons to the web need not be less than 6 inches pitch; the rivets from $\frac{3}{4}$ to $\frac{1}{2}$ diameter.

It might be expected that the projecting flange of the angles might break off at the root, but experiments and a considerable amount of working experience show that such is not the case. No instance has ever been known of the angle iron stripping away from its root. Where any unequal loading takes place, it should be fastened or laid with sufficient surface so that there may be no fear of local deformation. Though the weights exercise vertical strains, they are converted into horizontal ones by the action of the girder itself.

An experiment was made at Messrs. Moreland & Son's upon a girder with a 20 feet bearing, 15 inches deep, web $1\frac{1}{2}$ thick, with $5 \times 4\frac{1}{2} \times \frac{3}{8}$ inch angle irons. Pressure was applied at the centre of the girder with an hydraulic press. From 3 tons up to 21 tons it deflected $\frac{1}{8}$ inch for every 3 tons, and after that the deflections were $\frac{1}{4}$ inch for 24 tons, $\frac{1}{2}$ inch for 27 tons, $\frac{3}{4}$ inch for 30 tons, 1 inch for 33 tons, and 1 inch for 36 tons. There was no permanent set up to 24 tons; at 27 tons there was a perceptible set which went on increasing, and at 36 tons the girder was slightly deformed and twisted, and though the girder was thus twisted laterally it did not fracture the iron or break any of the rivets. Now 36 tons may be taken as the breaking load of the girder, and the working load may be taken at 9 tons, which gives a strain of about 5 tons for every square inch of metal on either side of the neutral axis.

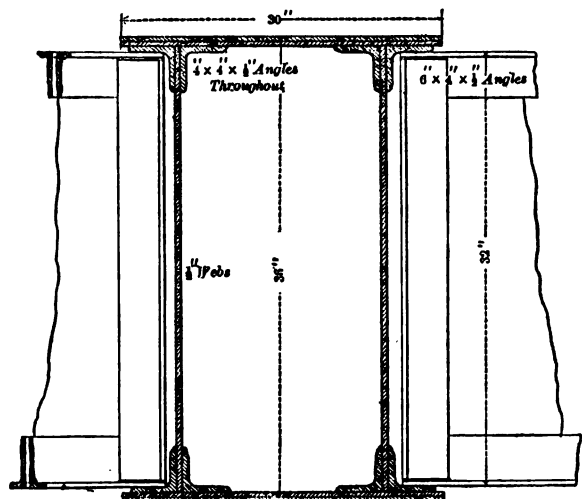
Flange girders are similar to the web plate girders, with the exception of having flange plates rivetted upon the angle irons at each flange; but the rivet holes which are made in the angle irons for the purpose of securing the flange plates to them, reduce the strength of the angles, and so an addition has to be made to the flange plate to compensate for that reduction of rivet holes in both angles and flanges. The loss is calculated at about 17 to 18 per cent. The plate girders being of equal section throughout, a certain amount of metal is wasted; whereas, in the flange girders, the flanges and angles can be so arranged as to make the sections more proportionate to the strains which pass through them, so that this fact tends to counterbalance the reduction caused by the rivet holes already mentioned. Where the flange plates project more than 8 or 9 inches beyond the web, they should have angle iron gussets at close intervals. Plate girders can be made of any dimensions, and commence from a depth of about 15 inches.



The flange girder illustrated in Diagram, 3 feet 9 inches deep, 2 feet 6 inches wide, two $\frac{1}{2}$ inch plates in flange, $6 \times 6 \times \frac{3}{8}$ angles, and 3 inch web, this and a number of similar girders formed a frame for the support of a building about 80 feet in height, with 2 feet 3 inch wall. The girders were about 30 or 40 feet long.

The building is an exceedingly heavy one, and the flanges bear their strain with ease.

Box Girders.—These are used when a considerable width is required in proportion to the depth. There is no theoretical advantage of a box girder



over a plate girder; but the only advantage that can be claimed for a box girder over a plate girder is that in isolated positions, or where there is a possibility of side strain acting upon it, the webs and angles of the girder act as flanges to resist such strain. Box girders being usually of a greater width than plate girders, the flanges thus make the girder stiffer laterally. Plate gussets in large box girders should be used at close intervals.

In all three classes of girders the webs should be graduated and become thinner towards the centre, being the thickest at the ends.

The stiffeners in box girders may be placed with advantage inside the web, and so be riveted to both angles and web, the ends of the stiffener touching the inner side of both flanges.

It is advantageous sometimes to use two plate girders instead of a box girder and bolt them together; this is very useful for slinging purposes, as the bolts can be made to pass between the two girders.

The box girder illustrated in Diagram is 24 feet long, 3 feet deep, 2 feet 6 inches wide, two $\frac{1}{2}$ inch plates in flanges, the angles $4 \times 4 \times \frac{1}{2}$ inch. Three of these girders were employed to form a frame 26 feet 6 inches long by 24 feet, and five rows of the plate girders 2 feet 8 inches deep were placed between them, and arches 14 inches thick of cement were thrown from the lower flanges of the plate girders. The frame was laid upon six columns, 16 feet centres and 12 feet centres. The girders have a slight overhang. This frame was used to support a superstructure of upwards of a thousand tons in weight, the columns discharging a weight upon each foundation of 170 tons. The columns were 2 feet 6 inches diameter, $2\frac{1}{2}$ metal, and 17 feet 6 inches long.

Discharge of Weight from end of Girders.—Where considerable loads rest on girders, it is important to find the amount of load discharged on each support; and very often the accumulation of weight becomes very intense on one support; in these cases where a pier or a sufficiently large one is not available, the discharge should be taken by a girder resting upon the line of wall of sufficient length and strength to distribute that discharge on the wall, which it may be capable of supporting; stones, unless of considerable thickness, cannot be depended upon.

A cantilever or semi-girder is a lever, which is a beam fixed at one extremity only and supporting a weight at the other. It is subject to transverse strains, the upper edge being extended and the lower compressed, and it has a tendency to overturn the structure to which it is fixed.

Strains in Webs are difficult to define with accuracy; they may be vertical, diagonal, and curved. If vertical they must be diagonal, for the weight or load placed on a girder exerts a vertical force in consequence of the attraction of the earth, and this is generated into horizontal forces at both flanges, so that the web must be under diagonal strains, because the vertical force is converted into a horizontal one. The primary idea of a web may be taken from a single series of bracing, and supposing these braces to be crossed, and additional ones added so as to fill up the whole of the vacant space, there would then be sufficient iron in the braces to make two webs in consequence of their overlapping, so that the continuous web will always be more advantageous as regards strength than the bracing in lattice girders, provided it is convenient to employ it.

Shearing Strain at the centre of a girder, supported at both ends and with the load equally distributed, is nothing, and at the other sections is the sum of the weights between that section and the centre. The shearing strain at any section is the pressure transmitted to the abutment through that section, and is equal to the lines of ordinates of a triangle, and the sectional area of the web should vary accordingly to that ratio, being thickest at the ends and thinnest in the centre; the thickness of the flanges varying in the form of a parabola, being thickest in the middle and thinnest at the ends.

Single Fixed Load not at the Centre, girder of uniform strength, depth constant.

f = unit strain, w = the weight, a = sectional area of either flange, m and n the segments into which the position of the weight divides the length of the girder.

x = a section of the girder at another point.

$$f = \frac{n \cdot x \cdot w}{a \cdot d \cdot l} \quad af = s = \frac{n \cdot x \cdot w}{d \cdot l}$$

All structures which span a space either thrust their supports from each other, or drag their supports towards each other, or press their supports by vertical forces. In the first case may be included brick or masonry arches, and other arched structures in iron or wood. The spring or skewback on which the arch is supported is inclined in proportion to the span of the arch, and the reason why arches maintain their position is, in the first place, the resistance of the material to compression, and the maintenance of its stability, and the resistance of the spring or the skewbacks to the thrust imposed upon them. However, in the case of semicircular arches, the springing being of course horizontal, these arches discharge their own and the weight they support downwards in a vertical direction; but all arches whose skewbacks are inclined act as a wedge does, with a tendency to drive their supports outwards.

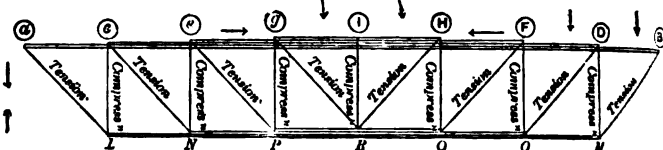
Bowstring Girders.—The bowstring system of girders is of that construction, where one member is horizontal and the other curved upwards forming an arch, or downwards forming a suspension flange.

A bowstring girder, in consequence of its uniformity of strength, is the lightest of all girders. The tension rod, or tie beam, receives a tension equal to the horizontal thrust of the bow, and a bending action due to the load between any pair of suspenders. With an equal load, some of the suspenders may be columns in compression, and some ties, at various times, as the load is varied. If the girder is without diagonal braces, then its strength will depend on the stiffness of the bow. The thrust on the curved flange of a bowstring varies as the secant of the inclination.

Bowstring girders may have the curve on the upper or lower flange, the curved flange taking the whole of the shearing strain, the web merely acting as a vertical support or tie from the curved flange, or bow to the straight flange or string.

If the straight flange of a bowstring girder be uniform, and m and n be the segments dividing the length of the girder into any two parts, then the depth will vary as the rectangle of these segments or as m and n , the curved flange will then be a "Parabola." The web then is not required for diagonal strains, but is only required to act as rods to distribute the weight from flange to flange, the longitudinal strain in the curved flange increasing towards the points of support.

Truss Girders.—This diagram represents the skeleton of a truss, with four sets of truss rods and eight bays. The two centre bays are supported



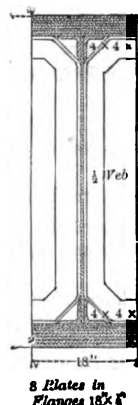
by a simple triangular truss, $g H$, with a truss carriage, $R I$, the weight of this truss is transmitted to and supported by the truss carriages, $g P$ and $H Q$, and these again together with the bays, $e g$ and $H F$, are supported by the truss rods, $e p$ and $F Q$. This total weight is supported by the truss carriages, $e N$ and $F O$. The weight of this truss together with that of $e e$ and $F D$ is supported by the rods $e N$ and $D O$. This again with the additional weight of the bays, $a c$ and $D B$, is taken up by the truss rods, $a L$ and $B M$. Thus we see the whole weight of the truss is discharged upon and supported by the points a and B , and that in the event of its being unequally loaded the sectional area of the tie rods would be in arithmetical progression, smallest at the centre and increasing towards the ends, the flanges on the other hand being the thinnest at the ends and thickest at the centre. This is similar to the system of construction of ordinary girders. A modification of this truss was introduced by the American engineers.

Where girders are unequally loaded and supported at both ends, the tensile strain on the flanges may be discovered by projecting lines at the centre of gravity of each of the weights as ordinates, these lines being proportioned to the weight discharged upon these points. If from each of these points lines be drawn to the end of the girder, forming a series of triangles, the apex of each being the points already referred to in the line of pressures; and if these lines be projected and the distance of each intersection of all the lines be taken and added to the apex of each triangle in the same line of projection, then the curve drawn through the points thus obtained will be equal to the total strain produced upon the girder by the applied weights.

The shearing strain in girders supported at both ends is decreased as the centre is approached. The deflexion of smaller beams from their own weight is as the square of their lineal dimensions.

In designing wrought-iron girders it is important to collect the whole of the metal as far away from the neutral axis as possible, and to accumulate it in the flanges, leaving the web and its stiffening to take up the intermediate strains, as may be required.

The Diagram represents the section of a 59 ft. long girder which was one of a pair of girders erected at the St. Pancras Station under the direction of Sir Gilbert Scott. These girders were used for distributing the weight of a considerable portion of the structure over a number of separate foundations. The load was about 560 tons; and as the discharge of the load on the different parts of the girder could not be accurately ascertained, it was constructed to carry an equally distributed load. The girder was of a total depth of 5 feet 6 inches, and 1 foot 6 inches wide; it had nine $\frac{1}{2}$ -inch plates in the centre of the flange, tapering to 2 inches at the ends; the web was $\frac{3}{8}$ inch thick for 10 feet on either side of the centre, thickening to $\frac{1}{2}$ inch at the ends; it was divided into panels of 4 feet each, the angle irons at these junctions forming angle stiffeners and cover-plates at the same time; the angle irons were $5 \times 3 \times \frac{1}{2}$; the angles in the flanges were $4 \times 4 \times \frac{1}{2}$; the two end bays had diagonal stiffeners and a second vertical stiffener, and also an additional angle iron added to the stiffener.



The joints in the flanges were stepped over each other in the centre of the girder, in equal steps, 9 inches long, one plate on top and bottom forming the cover-plate for the whole of the junctions. The other points were covered by the second plate overlapping sufficiently far, so that by this method an effectual junction is made and a complete parabola is formed throughout the flanges for the transmission of the strain. The weight of each girder was 15½ tons.

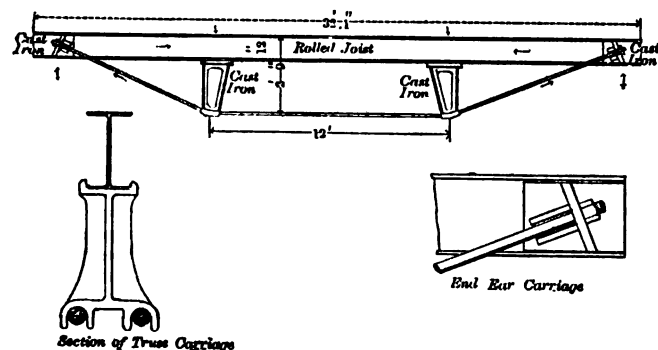
Cast-Iron Girders.—The resistance that cast iron gives to a compressive strain is from 40 to 42 tons per square inch as a crushing strain, from 6 to 8 tons for a tensile strain; so that the area of the flanges of cast-iron girders should be in this proportion about 6 or 7 to 1. The upper flange, however, where the girder is isolated and not held in position by the structure itself, should be proportionally wider according to each particular case, as the upper flange has to resist flexure which would possibly deform it before compression of the flange could occur; but where the web and the upper flange are supported by the structure itself, as in the cases of arches and flooring, the theoretical proportion may be taken. The inverted Y or V cast-iron girder is a bad construction for taking the strain, though

a good one for making the skewback. As the girder is all web and no flange, it will be found that the ordinary T girder is the best form for taking the strain, and also the most economical; the skewback is easily formed in brick upon the lower flanges; in many cases it is not necessary to have an upper flange, but to make the girder in the form of an inverted T where the flange is thick and well immersed in the construction.

Cast-iron girders should not be proved beyond their working strain if they are to be used afterwards. If it is desired to see the effect of the strain upon the girder, select a few and destroy them by the proof; the facts of the case will then show the conditions under which the girder exists.

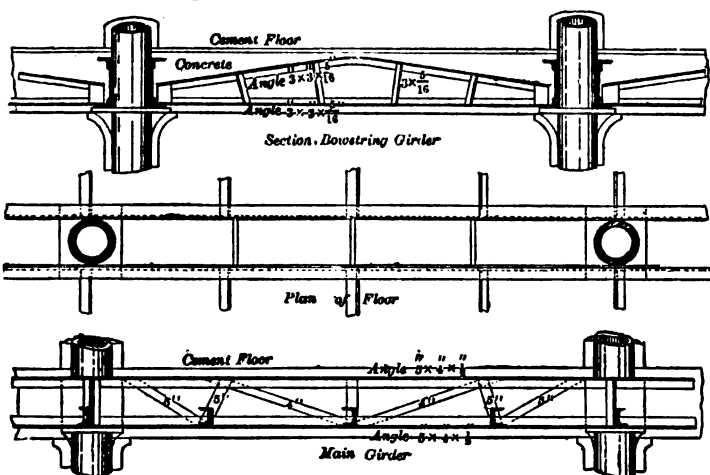
It is not advisable to use cast-iron girders of a greater length than 25 feet, and depth of $\frac{1}{20}$ span. To carry considerable loads wrought-iron becomes as economical and safer, and also in the event of girders being heated to redness during a fire, wrought-iron is likely to stand the cooling action of water poured on it better than cast iron. After the fire at Hadley's Flour Mills, in Thames Street, it was discovered that the great portion of the girders that had fallen were shorn off close to the bearing, and this could not have occurred if there had been any particular load upon them; the girders had evidently been red-hot in the fire, and the bearing being immersed in the wall partook of the wall temperature, so there was unequal temperature set up in the girders, and the water which was used to put out the fire cooled it down at the junction where the varying temperatures occurred, and so fractured the girder at that place; this would not have occurred if the girders had been wrought-iron. It is important that girders, if they have to withstand fire, should be encased in either plaster or wood. Cast iron would, no doubt, withstand the heat as well as wrought iron, but would not bear any shock during the time that it was kept heated.

Wrought-Iron Truss Girders.—This Diagram represents a rolled iron girder supported by truss rods; it was used for supporting flat concrete



roofs at Messrs. Waterlow's factory, Hill Street. The upper member being a rolled iron girder 32 feet long, 5 inches wide, and 12 inches deep; the flange 5 inches \times $\frac{1}{2}$ inch, web $\frac{1}{2}$ inch thick, two cast-iron snug carriages were bolted on each end of the girder 15 inches long with six $\frac{1}{2}$ bolts; two light cast-iron truss carriages 1 foot 9 inches deep being bolted on to the lower flange, 10 feet from either end, leaving a space of 12 feet in the centre; the two first-mentioned end carriages had snugs cast on them to hook on to the end of the girder, and so take the strain off the bolts which secured it to the girder. The two truss rods $1\frac{1}{2}$ inch diameter with 2 inch screwed ends were made in one length, and fixed in the ordinary way; the truss thus becomes a girder 2 feet 9 inches in depth, and supports a load with ease, where it had been found that the girder itself untrussed was altogether insufficient.

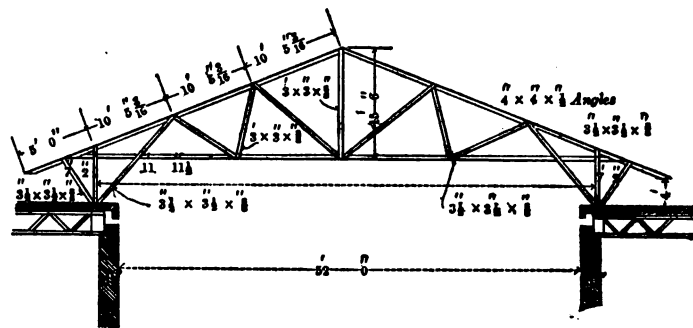
Wrought-Iron Fire-proof Construction.—This Diagram shows a design for encasing wrought-iron girders completely in concrete. The girders are formed continuously from one end of the building to the other, and are made in two parts, and one is fixed on either side of the columns. Each of them is composed of a single angle iron $5 \times 4 \times \frac{1}{2}$ inch for each of the flanges, and the bracing is composed of $5 \times 5 \times \frac{1}{2}$ inch angles for the first bar, and $4 \times 4 \times \frac{1}{2}$ inch for the second bar.



The girder is an open braced parallel girder 15 inches deep, the concrete being $2\frac{1}{2}$ inches thick on both top and bottom, so that these girders are immersed in a concrete block 20 inches deep. Bow-string girders 10 feet 9 inches long, 15 inches deep, are placed one over each column

and three between; the girders are 15 inches long, and 12 feet apart from centre to centre; the bow-strings are thus 3 feet 9 inches apart; they are composed $3 \times 3 \times \frac{1}{2}$ inch angle iron for the top and bottom flanges, with $3 \times \frac{1}{2}$ inch flat iron to connect them together. The advantage of this arrangement is that the block of concrete is not separated by the webs of either the main or transverse girders, but adheres through the braces; an effectual coherence is thereby made, and the whole of the iron composing the floor is immersed in one solid block of concrete from one end of the building to the other. This floor is calculated to carry a load of three hundredweight to the foot superficial. It is proposed that the columns should be also cased by using a sheet-iron cylinder made in three segments and working on hinges, and putting it round the column with a space of about three inches all round between the interior of the casing and the outside of the column, and then to pour some fire-proof material into this space, either cement or plaster, and when that is set to remove the casing. This is designed for a warehouse for inflammable materials. It is believed that this would effectually prevent the spread of fire, as the whole of the iron would be encased.

Wrought Iron Roofs.—The wrought iron trussed roof, shown in diagram, is to be erected over the court yard at Messrs. Waterlow's New Factory, under the direction of Mr. W. W. Lee; the whole width of roof



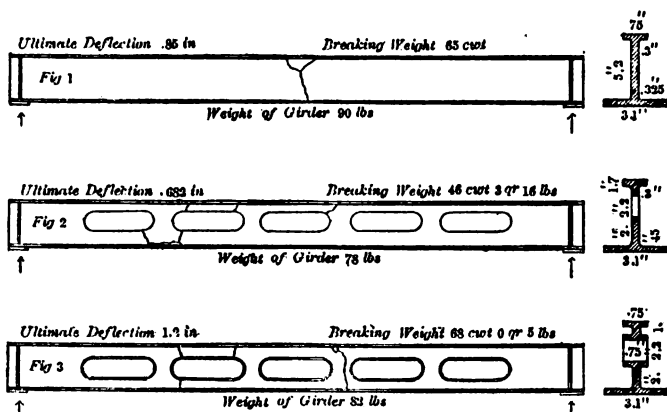
is 65 feet, the whole length is 72 feet; there are five intermediate principals, and two at the ends; these principals are so constructed that their feet rest upon the walls of the building; the points of support are 56 feet apart, and the eaves of the roof project 4 feet 9 inches over these supports, with a 4 feet vertical space the whole length of the roof; the principals are composed entirely of angle iron, the upper being 4×4 inches, and the lower $3\frac{1}{2} \times 3\frac{1}{2}$ inches; they are shod with a cast-iron shoe, three braces being connected with it, the inner support bars being fastened to both the tie and the principal rafters; three more braces are then carried to the centre, and the centre of the roof is made up with one vertical brace from the apex of the roof to the tie. The covering of the roof is composed of angle iron purlins 3 feet 3 inches centres, and T iron rafters fixed to them about 14 inches apart, $1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{2}$ inches; these rafters are turned up at the end 8 inches, and receive the next one above, which projects over the lower ones about 8 inches. The object of this opening is to ventilate the court yard as much as possible so that a constant current is being transmitted under the whole of the glass roof; there are thus ten lines of opening on each side of the roof, 8 inches wide, by which the ventilation is carried on; the shoes are securely anchored down to the wall, and the whole is well braced together. The end principals are glazed vertically down as far as eaves of the other part of the roof; strong wind ties will also be applied, as the wind will have considerable power over the roof, being erected at the height of 80 to 90 feet.

Flexure of Columns similar to the Deflection of Girders.—It is found that when girders are deflected, the lines which were originally vertical and parallel in the web, will not be vertical, but will form wedge-shaped segments on the girder; but all the lines are straight, so that the two lines at the ends of the girder, if projected, would meet at some distance from the girder. Now this same effect takes place, only in another way, in columns; the pressure, with the greatest care possible, can never be applied to a column of ten diameters in length, so as to transmit the strain through all the particles equally, so that one portion is strained to a greater extent than another, and bends the column from the ends by the action of the pressure. This is exactly similar to the girder being pressed in the centre and becoming deflected, and the under side of the girder becoming unparallel; of course, the point of flexure in the column would be a point opposite to that where the strain occurred.

Discharge of Weights on Three or More Supports.—Where a considerable concentrated load is discharged upon piers in a building by a girder being placed over them, and this girder being supposed to discharge the strain equally on each of the piers, then the sills of the openings between the piers should be girders also, or inverted arches. The base of the pier will receive just as much pressure as the top of it, making, therefore, an unequal discharge of pressure in the structure beneath and between the piers. A case in point may be noticed. The window sills at St. Paul's Cathedral are bent in an upward direction, from the pressure being discharged on the piers at the side, and not between the piers as it should be; whereas, if some inverted arches had been placed under the sills to discharge the weight, this would not have occurred. This is also the case with foundations. Walls with continuous foundations should not have isolated piers merely laid upon the line of structure without having inverted arches or girders. Foundations should never act as girders: the whole of the foundations should be in compression. The only way to make them act as girders is to put a girder on the top of them, or some inverted arches over the substructure.

Cast Iron Experimental Girders.—Girders were to be made with several apertures in the webs, and this led to an experiment being made. A girder

was made 94½ inches long, 5·2 inches deep; the lower flange was 3·1 inches wide and 5 inches thick; the upper flange was 7·5 inch wide and 3 inch thick. It was carefully loaded with weights in the centre with a bearing of 91 inches; the weight of the girder was 90 lbs., and it ultimately broke with 65 cwt. and a deflection of ·85 inch. This girder had a solid web. The girder broke in the centre, fracturing a wedge-shaped piece out of the upper flange.



The second girder was cast with five apertures in the web, 10 inches long, 2 inches wide, and rounded at the ends. This girder weighed 78 lbs.; the bearing was 91 inches as before, and was carefully weighed in the centre, and ultimately broke with a load of 46 cwt. 3 qrs. 16 lbs., with a deflection of ·6825 inch. The girder was fractured at two points in the first aperture from the centre, and at one point in the end aperture next to it, stripping up the web from the lower flange.

The third girder was made with the edges of the holes margined the same width as the upper flange, and was loaded under the same conditions up to 68 cwt. 5 lbs., when it broke; the deflection being 1·2 inch; the weight of the girder being 82 lbs. This girder broke through one of the apertures in two places in the upper flange, and through the web between two of the apertures on the other side of the centre, so that by the addition of 4 lbs. to the girder with the unmargined apertures the girder with margined apertures carried 19 cwt. more; or, comparing it with the other one, the girder with margined apertures, although it weighed 8 lbs. less than the girder with a solid web, it carried 3 cwt. more. The explanation of this is that the metal was accumulated more in the upper flange, and acted better as a column than in the two previous cases. The girders from which the experiment was made were constructed similar to that one with the margined apertures.

Corrugated Iron Partitions.—In granaries and stores considerable loads have to be taken by the side partitions and walls, so much so that there is often a greater load upon the walls and partitions than upon the base or floor of the structure. The loads being very unequally distributed, especially where the spaces are being filled or emptied, so the author has designed structures for taking a side strain equal to from 10 to 15 cwt. per square foot at the base of the structure by employing thick corrugated iron as a skin or basis for the partition, with a system of joists or girders on either side, and thus being bolted through the corrugated iron, so that there is a system of girders on either side of the corrugated iron. Ties acting as columns at the same time are placed at intervals of from 10 feet to 15 feet; these pass through the walls of the structure in the case before us. There is a series of spaces 40 feet square and 50 feet in height; these are divided by two cross partitions, supporting in each space of 20 feet square a load of about 270 tons, and as one space is filled another may be being emptied, so that each side may be alternately put in compression or in tension as the case may be. Each tie, indeed, has to act as a tie rod, as a column, and as a girder; it has to act as a tie and a column because of the alternate extension or compression, whether the space itself is filled or the adjoining space is filled; it has to act as a girder, because when the space is being emptied the drag of the grain downward acts upon the tie with the whole force of the descending mass; the external walls have to be tied with longitudinal tie-rods in the same line with the ties within the spaces, by having ties built in or bolted to the wall; the walls only have an outward thrust, and are not acted upon in two or three directions like the partitions. The corrugated iron is about ½ inch thick, and 5 inches fluted; the flutes are placed horizontally, and the spaces between the first set of girders which are vertical are 3 feet, the corrugated iron is made in a continuous sheet right through the building both vertically and horizontally; the vertical girders are also made continuous on either side of the corrugated iron, and the main girders which support these vertical girders are horizontal, and also run the whole length of the building. They act not only as girders, but as ties to the wall, the corrugated iron also assists them; tie-rods are taken from these girders and carried through the buildings continuously, and strongly fastened to the walls; this construction is light and exceedingly strong; it has been in use for several years, and no flexure has taken place; loads of 15 cwt. are discharged at the foot of some of these structures.

The CHAIRMAN said there could be no question as to the value of the Paper, particularly in relation to the amount of ironwork that ought to be put into girders. Upon such a subject circulars were not always reliable, as they emanated to a great extent from manufacturers whose motto was quantity rather than quality.

In the brief discussion which followed Mr. Bancroft, Mr. Payne, and Mr. Robertson took part, and a vote of thanks having been tendered to Mr. Moreland and carried by acclamation,

Mr. MORELAND expressed his acknowledgments, and replied to the points arising in the discussion. With regard to the proportion of bearing to span, it would vary from one-tenth to one-twentieth—that would depend upon the loading and whether deflection was wanted. As to the areas of the top and bottom flanges, he thought they should be equal in wrought iron. He preferred a solid web girder to a lattice girder—the prices varied considerably according to quality. The question respecting the testing of girders was most important. In the first place they should make up their minds to get good material and see that the castings were made properly. As a precautionary measure they should put a little extra metal in the girders and take care that they had no flaws in them—special care was requisite in the case of cast iron girders.

LORD SELBORNE ON ART.

ON Monday an exhibition of pictures and other works of art was opened at the Guildhall of the City of Winchester by Lord Selborne. In his address, after congratulating the city on gathering together such an excellent collection of works of art, his lordship proceeded to show the comparisons or contrasts which existed between art in the past and in the present ages. They were, he said, living in times of greatly diffused and extended education—what might be termed an age of criticism; and it might be doubted by some whether an age of criticism was the one best fitted to judge of the merits of the works of periods of art which were past. Looking away from the noble buildings of the present day to the glorious works which he would term "poetry in stone," such as they found in the interior of Winchester Cathedral and other architectural productions of the past, he could not but admit that in that department of art, at all events, they could not hope to realise the majesty and beauty of that past age. So with regard to poetry. The poets of our own time they all read with pleasure, and of their productions any country might not unjustly be proud. But when they thought, he would not say of Homer and those of Greece and Rome, but of our own Shakespere and Milton, it led one to doubt whether the poetic productions of the present day were equal to those of the poets of past ages. He admitted that he was getting old, and therefore could not see the new lights as vividly as the older ones, and it might be blindness on his own part which made him somewhat insensible to the beauties of the present as compared with the past. So with regard to painting and sculpture. Beautiful as were many pictures in the present day, especially in respect to watercolour and landscape painting generally, yet when he thought of Raphael, Rubens, Vandyck, and the old Italian school of painters it seemed that the men of the present age could not approach their high mark. Most unquestionably there was one great and good tendency in the present day—to bring home to the greatest possible number of persons an appreciation of the highest works of art. In that sense it was difficult to estimate the value of exhibitions of this character, and everything which was calculated to effect that purpose was inappreciably valuable. He would assume that one of the best and highest developments of the general education which characterised the present day was that a taste for all that was beautiful in art and science should be cultivated and generally diffused. The growing taste in this direction was a healthy sign, and clearly proved that this country had made really remarkable progress. When he was a schoolboy at Winchester there were not more than five or six boys who exhibited any taste for music, and they were regarded as rather doubtful subjects for education; and it was the same at the Universities. Now the love of music was so general that it was an uncommon thing for anyone to go into students' lodgings at Oxford and Cambridge, and not find a pianoforte or some other sign of musical taste; and, assuming that other more really essential matters were not neglected, he rejoiced in this growth of taste for the divine art of music. The same might be said in reference to works of art generally, pictures, and all that was beautiful in china and all kinds of decorative art. The demand had outrun the supply, and he believed there was no better investment in the present day than that in pictures and other works of art. There was a great and growing increase in the value of such articles, and when collections were broken up, pictures, &c., sold at prices fabulously greater than those paid for them when such collection were originally built up. It was necessary, therefore, that the tastes of purchasers should be cultivated, and exhibitions of this kind, brought together in the great centres of population, must be useful in extending and enlarging the cultivated tastes alike of purchasers and of those who provided the supply. Nor was the taste of the present day confined to any one department only. In every direction there were manifestations of a growing sense of the possibility and desire of cultivating the beautiful, and improving the lines of high art. Their schools of art were based on such principles, and nothing helped them more than exhibitions of this kind, and he was glad to see that South Kensington and other national establishments had contributed valuable works to the present undertaking. Fortunately all the art possessions of England were not absorbed by the metropolis. In provincial life there was as much energy, activity, and earnestness as in the metropolis, and this was of great value to all classes of the nation. Our treasures of art were not all in one great centre, but were dispersed and scattered in the houses of private gentlemen and merchants, who, fortunately, made them accessible to their neighbours and the public generally. They saw in that hall not only specimens from the national museum at Kensington and from the Queen, but numerous contributions from gentlemen of Hampshire—specimens of works of which not Hampshire only, but any other county, might justly be proud. He believed every county in England could do the same. Such exhibitions were highly valuable, and those who brought them together to be seen by working men, artisans, and lovers and students of art generally, deserved the warmest and most cordial thanks of all.

Lord Selborne then declared the exhibition open, and it is to be kept open till July 30. The financial proceeds are to be divided between the Royal County Hospital and the new Schools of Art about to be built in the city.

THE INSTITUTION OF SURVEYORS.

THE anniversary meeting of the Institution of Surveyors was held on Monday last, at their house in Great George Street, Westminster, under the presidency of Mr. Thomas Huskinson.

Mr. John Henry Clutton and Mr. Henry Arthur Hunt having been appointed scrutineers,

Mr. J. W. PENFOLD (the hon. secretary) read the seventh annual report. The Council therein congratulated the members upon the steady progress made during the past year. The prosperity of the society had been so apparent as to render comment almost unnecessary. The addition to the members in the 1874 session had been greater than that during any previous session, and among the new members were those of several gentlemen whose association with the Institution was a source of satisfaction to the council. Regret was expressed in the announcement of the death of several members; since the date of the last report the society had lost from their roll Mr. W. Culshaw (of Liverpool) and Mr. J. L. Hornblower (of Birmingham). The total number of new members who had joined the society in 1874 was 52, being 1 hon. member, 31 ordinary members, 16 associates, and 4 students, the present number being as follows:—6 hon. members, 269 ordinary members, 101 associates, and 10 students, a total of 386 members of all classes. The revenue from subscriptions had largely increased, and the council were able to make arrangements for redeeming 500*l.* of debenture bonds. During the recess several improvements (the report stated) were to be effected in the warming, ventilation, and acoustic arrangements of the lecture hall, which were to be completed before the commencement of the next session. Several noteworthy acts of liberality on the part of the members were mentioned. The gift of four debenture bonds of 25*l.* each, from an anonymous donor; a splendid and massive carved presidential chair from Mr. T. T. Wing; and the defraying by Mr. R. C. Driver of the cost of the improvement to the entrance to the hall, were thankfully acknowledged in the report. It was the original intention of Mr. Wing to perpetuate the presidency of Mr. John Clutton, but owing to the elaborate design of the carving on the chair, it was found impossible to complete the work at the time contemplated. Several valuable Papers had been read by the members at their meetings, but the number had not been so great as during former sessions, which was due to the fact that a subject—the landlord and tenant question—which was of great interest as affecting the members, had been dealt with by the Legislature, and the Society had therefore discussed the subject at some length, in preference to other matters. The statement of accounts showed a balance in hand at the commencement of last year of 190*l.* 12*s.* 11*d.* The receipts included 895*l.* 13*s.* subscriptions from members and associates; 255*l.* 3*s.* from entrance fees; donations to the library, 36*l.* 15*s.* The total expenditure for the year was 1,398*l.*, which included 742*l.* for new buildings and repairs, 125*l.* paid for five debenture bonds, 39*l.* purchase of books, maps, &c. The letting of a portion of the premises for the purposes of arbitrations had been fruitful of income, and the Council had decided to enlarge the building with a view of providing additional accommodation for that purpose.

Mr. SHIELD moved the adoption of the report, which, having been seconded, was unanimously carried.

Thanks were then passed to the auditors and the members of the Council.

Mr. HUSKINSON briefly acknowledged the compliment, on behalf of the Council, and said that in his office as President he had during the past twelve months received cordial support from his colleagues.

After other resolutions of a formal character were passed, the ballot for the officers being closed, the following result was shortly afterwards declared:—Mr. Thomas Huskinson (President); Messrs. Jeremiah Mathews, John Oakley, Edmund James Smith, and William Sturge (Vice-Presidents); Messrs. W. J. Beadel, V. Buckland, H. Crawter, R. C. Driver, E. Ryde, C. J. Shoppee, F. Vigers, T. C. Clarke, C. Stephenson, E. P. Squarey, D. Watney, and T. S. Woolley (Members of Council); and Messrs. J. H. Lloyd and R. B. Grantham (Associates of Council).

Thanks were passed to the scrutineers and to the chairman, and the meeting separated.

TOUGHENED GLASS.

ON Wednesday evening Mr. Perry F. Nursey, C.E., read a Paper on "Toughened Glass," at the Society of Arts, Adelphi. He said that, notwithstanding the manufacture of glass extended back so far into the past that its age might be counted by thousands of years, they did not appear to have at any time produced an article differing materially as regarded its physical features from the glass made in the days of Pharaoh. In its normal condition glass was transparent, solid, very hard and yet exceedingly brittle, and was produced by the fusion of silicious and alkaline matters; but its great hardness, its extreme brittleness, and its transparency still co-existed. It remained, however, for their own times to witness the production of a process by which glass was practically deprived of its brittleness. The inventor of this process was M. de la Bastie, a French gentleman of property, who was educated as an engineer. He had for some time past worked his process experimentally, without any mischance, and was now erecting a factory in France in which to carry it on practically and commercially. In carrying out his process, M. de la Bastie found it necessary to raise the glass to be tempered to a very high temperature. The hotter it was, the less was the risk of breaking the glass, and the greater was the shrinkage or condensation. Hence the advantage, and often the necessity, of heating the glass to the point of softening, which was attended by the difficulty that glass in the soft condition got readily out of shape, so that it must be plunged into the bath almost without touching it. In plunging the hot glass into a heated combustible liquid, the latter was apt to take fire, and could not easily be extinguished, so that time and material were lost. These difficulties M. de la Bastie had overcome by placing the temperature bath in immediate communication with the heating oven, and covering it so as to prevent

access of air. The oven being charged with the articles to be tempered, they were made to slide into the adjoining bath without being handled, and the contents of the bath, having no supply of air, were not liable to inflame.

In order that the shape of the tempered articles might not be affected, particularly flat glass, the floor of the oven was made to cant, so that when the glass was heated on it, it was turned to a sloping position, and the glass slid into the bath along a surface arranged in it at the same angle as that of the oven floor. The clearness of the glass might be affected by the dust of the furnace flame, which was apt to settle on the glass and chill its surface. This was avoided by heating the glass in a muffle, to which the flame had no access, being applied externally. The shock of the fall of the glass into the bath was prevented by fixing in it a sheet of wire gauze, or asbestos fabric, for the glass to fall on. The physical change which glass thus treated underwent was no less complete than remarkable. Its extreme brittleness was exchanged for a degree of toughness and elasticity, which enabled delicate glass articles to be thrown indiscriminately about, and more substantial ones to resist the impact of heavy iron weights falling from considerable heights. Another peculiarity about toughened glass was, that the fragments were by no means so sharp, and therefore so capable of piercing the flesh or of causing incised wounds, as were those of ordinary glass. With regard to its practical application, it was possible that there was not one corner in the whole domain of arts, sciences, and manufactures where its presence would not in time be made manifest in some way or other, and its usefulness appreciated; and in respect to the wide range of domestic and social wants, toughened glass promised to supersede porcelain and similar wares.

THE ARTISTS' RIFLE VOLUNTEER CORPS.

AMONG the numerous organisations which have emanated from the Architectural Association, not the least successful are the architectural companies of the Artists' Rifle Volunteer Corps. They, with the rest of the battalion, were on Saturday last inspected on the parade ground at the Horse Guards by his Serene Highness Prince Edward of Saxe Weimer, the general commanding the home district. The commanding officer (Major Leighton, Royal Academician) and the corps were after the inspection congratulated by his Serene Highness on the manner in which the evolutions had been performed, and his remarks seemed fully to justify the universal feeling that both in numbers and efficiency the corps had far surpassed the standard of any previous period of its existence. The corps also took part in good force in the review at Panshanger (held in Earl Cowper's beautiful park) on Whit Monday, a very considerable proportion of those present having left town on the previous Saturday and marched to Hertford under the command of Captain Edis, the acting major of the battalion, to whose initiative, it will be remembered, the formation of the architectural companies is due. It is we think creditable to the profession that it should be specially represented in the volunteer force, and this patriotic movement ought to receive the hearty co-operation of those who are young, and at least the moral support of all. We understand that the prize meeting for rifle shooting will be held in June.

THE BENZON LIBRARY.

AT the sale of the very important and valuable portion of the books and manuscripts of the late Mr. E. L. S. Benzon, sold by Messrs. Sotheby, Wilkinson & Hodge last week, most of the books on account of their extraordinary rarity and fine condition sold for unusually high prices. Among those eagerly contested for were:—Lot 15. "Biblia Sacra Latina," printed by Jenson in 1476, on vellum, 2 vols., having the *registrum fac-simile*, 370*l.* Lot 18. The first English Bible, by Miles Coverdale, printed in 1535, of which no perfect copy is known, having three leaves and map in fac-simile, 360*l.* Lot 16. First German Bible, 75*l.* Lot 17. German Bible, printed at Augsburg circa 1473, 52*l.* Lot 8. "Arthur and Knyghtes of the Rounde Table," an extremely rare romance of chivalry, printed in 1557 by W. Coplande, 94*l.* Lot 68. "Chronicon Nurembergense," with quaint woodcuts, 18*l.* 10*s.* Lot 94. Dugdale's *Monasticon*, on large paper, 100*l.* Lot 125. Holbein's "Portraits of the Court of Henry VIII.," 31*l.* Lot 126. Holinshed's *Chronicles* without the *Castrations*, 20*l.* Lot 130. "Homer," translated by Chapman, 22*l.* Lot 131. "Horatii Opera," Didot's magnificent edition, with proof plates, 39*l.* Lot 61. "Chronicles of England," 22 vols., 28*l.* Lot 66. Clarke's "Repertorium Bibliographicum," extensively illustrated, 25*l.* Lot 67. Cokain's *Poems*, 17*l.* 15*s.* Lot 79. Dibden's "Decameron," 3 vols., 35*l.* Lot 80. Dibden's "Northern Tour," 3 vols., 27*l.* Lot 83. Dibden's "Bibliomania," profusely illustrated, 46*l.* 10*s.* Lot 88. Dickens's works, 46 vols., 65*l.* Lot 111. "Guarini Pastor Fido," printed on vellum by Didot, 37*l.* Lot 163. Massachusetts Historical Society's collections, 26*l.* 10*s.* Lot 185. Percy Society's publications, 22*l.* 5*s.* Lot 187. Petrarca Rime, Manuscript, on vellum, 68*l.* 10*s.* Lot 192. Psalterium Latium, Manuscript, on vellum, with illuminations, 79*l.* Lot 197. Ritson's works, 37 vols., 72*l.* Lot 198. Ritson's "Bibliographia Scotica," unpublished manuscript, 25*l.* 10*s.* Lot 200. "Roxburghe Revels," illustrated, 28*l.* Lots 201, 202 and 203. Ruskin's "Stones of Venice," "Modern Painters," and "Seven Lamps of Architecture," 9 vols., 47*l.* 10*s.* Lots 217, 218 and 219. Shakespeare's plays, 2nd edition, 62*l.*; 3rd edition, 59*l.*; 4th edition, 23*l.* 5*s.* Lot 221. Shakespeare's Works, edited by Halliwell, 16 vols., 71*l.* Lot 222. Shakespeare's *Poems*, printed in 1640, with the rare portrait, 65*l.* Lot 229. Sibthorp's "Flora Græca," 45*l.* 10*s.* Lot 232. Smith's "Virginia and Travels," 47*l.* Lot 237 to 257. A series of works printed at Strawberry Hill, 77*l.* 3*s.* Lot 258. Strutt's Works, 11 vols., 84*l.* Lot 266. Twerdannekh, a curious metrical Romance on the Deeds of the Emperor Maximilian, 18*l.* 5*s.* Lot 272. "Virgili Opera" (Didot's), splendid edition, with proof plates, 18*l.* Lot 275. "Walton and Cotton's Complete Angler," by Sir N. H. Nicolas, 21*l.* 10*s.* The entire sale of 299 lots produced 3,622*l.* 19*s.*

STREET PAVING AND CLEANSING.

A REPORT on this subject has just been issued by a Committee of the Society of Arts, which has been collecting information for some time past. A good deal of trouble was taken to obtain useful results, as may be judged from the fact that not only was a series of practical experiments instituted to decide the question as to the best of the systems of paving now before the public, but a form of questions was drawn up and left at houses and shops in roads where experimental tracts of new pavement—*asphalte* and wood—had been laid down. It appears to have been difficult in many cases to obtain answers to this sort of voluntary catechism, but a good many replies were sent in, and the summary of them appended to this report must be taken as a genuine expression of opinion as far as it goes.

The experimental tests, which were made with a specially-constructed dynamometer and an omnibus, more or less heavily weighted, resulted in favour of the *asphalte*, though even this was beaten by a perfectly level piece of granite by the side of a tram. Smooth as the surface of the *asphalte* appears, it is nevertheless slightly undulating from inequalities in the foundations, and the little slopes thus formed add materially to the amount of tractive force required. The wood pavement was next to this in point of ease of draught, well-laid *macadam* being the next best. As to wear, a curious fact is noted about *asphalte*, that though the thickness of a layer exposed to constant traffic decreases considerably, its density increases in the same proportion, and from this it is argued that there is little or no abrasion from the surface, but that the material is merely compressed, and so actually strengthened by wear. That the *asphalte* pavings in London have not realised the expectations with which they were laid down is certain, but, according to the authors of this report, the cause for such a state of things is to be looked for in the improper treatment *asphalte* roadways have received rather than in any defects of the material itself. The obvious defect of *asphalte* is its slipperiness, and it is now pretty generally known that this slipperiness does not exist when the *asphalte* is clean, whether it be wet or dry. The only way of keeping it clean is by constant washing, and no suitable means exist for this; besides, when the roadway was plentifully besprinkled with water, such serious complaints arose of the "slop" that the watering was stopped.

The objections put forward against wood pavement are chiefly sanitary. It is stated that the wood readily absorbs any liquid refuse left on the surface, and thus becomes a dangerous source of infection, while it retains wet for a long time and is difficult to clean. These conclusions, it is but fair to remark, seem to have been arrived at from a consideration of the older systems of wood pavement rather than from any extended examination of the newer methods now apparently increasing in popularity. A considerable part of the report is devoted to remarks on the sanitary aspects of the pavement question. The great importance of having smooth hard road surfaces, which will neither become sodden with deposited filth, nor allow exhalations to permeate from polluted subsoils, is hardly sufficiently appreciated. Yet to the great majority of the population this is of far more consequence than any convenience for traffic. The actual damage also from dust—dust, it must be remembered, consisting of particles of horse-dung, sharp particles of granite, and even morsels of iron—is an appreciable quantity; while the question of injury to health, mental and bodily, from the unceasing clatter of the streets is not to be neglected. These and many other such like obvious considerations are sufficient, if any reasons were required, to urge the adoption of some good and uniform scheme for our London pavements. But if the construction of good roadways is all-important, hardly less requisite is the adoption of some proper method of cleaning them. For this purpose the use of a jet is strongly urged, on the ground that the jet, when properly applied, may serve the purposes both of a watering-cart and of a broom, while it is also capable of washing courts, alleys, and walls. Whether we shall ever see the familiar watering-cart superseded by some such appliance as that in use in Paris for distributing water over the street from a hydrant is perhaps questionable. At all events there are strong arguments in favour of the foreign plan.

Of course the great difficulty in the way of such reforms lies in the minute subdivision of local government in London. On this head there is perhaps little new to be said, but the report puts the facts in a somewhat striking form. Possibly few besides those who are specially familiar with the subject may be aware that the main route from Hammersmith on the west to Poplar on the east passes through thirteen local districts or subdivisions in 11½ miles, or that in another direction, from Upper Clapton to Roehampton Gate, Richmond Park, about 13 miles, is under fourteen authorities.

THE WINDSOR DRAINAGE.

THE contractor, Mr. Acock, has just commenced the Windsor drainage works, the completion of which will be another step towards the purification of the Thames. It is about six years ago that the Thames Conservators gave the first notice to the Windsor Town Council, as the Local Board of Health, to discontinue to drain the town into the river Thames, and the matter has been under consideration ever since, the Corporation feeling that there was a peculiar hardship in the case, as a complete system of drainage had been constructed about twenty years previously. Various projects have been under consideration, and for a year or two the principle of separating the sewage and rainfall and disposing of the former for the purposes of irrigation was in favour; but the difficulties of obtaining a site within a reasonable distance, and the expensiveness of the works, caused the idea to be abandoned. For a year or two Mr. Dover's system, the A B C system, and other plans of purifying the sewage were discussed, some difficulty with reference to a site presenting itself in relation to every scheme. A site having been at length purchased on "the Ham," the Council consulted Mr. Hawkesley, C.E., under whose advice an outfall sewer is to be constructed connecting the present drainage with the Ham, where works will be erected for the purpose of treating the sewage by precipitation.

The distance the sewage will have to be taken is about two miles and a half, the route being along the King's Road, across the Long Walk, along the Albert Road to old Windsor, thence across the Manor Farm to the navigable cut, which forms part of the boundary of the Ham, the remainder being bounded by the Thames. The drain will then be taken to a spot beyond the Castle Sewage Farm. The total cost of the works is estimated at about 30,000*l.*, about 5,000*l.* being added to the cost by the refusal of the Commissioners of Woods and Forests to allow the drain to be taken through the Park, which would have saved a considerable angle. The sewer will be of stock bricks 4 feet 6 inches in diameter, and circular in form, and is calculated to meet the requirements of double the present population of Windsor. At the Ham the sewage will have to be pumped into the depositing tanks, and provision is made to pump away a rainfall of 1 inch in an hour, the sewer itself being a reservoir of a rainfall to that extent. To meet any excess of rainfall beyond 1 inch in an hour, there will be an overflow to the Thames; but there are some doubts how far the Thames Conservators will sanction this. Mr. Hawkesley contends that a rainfall in excess of 1 inch in an hour is an act of God, for which the Council cannot be called upon to make provision.

To defray the cost of the works the Corporation propose to borrow the sum of 30,000*l.* About twelve months ago Mr. Rawlinson, of the Local Government Office, held an inquiry respecting an application to borrow 10,000*l.* of that sum for the portion of the work situated within the borough. A determined opposition was offered by some of the owners of property and residents in the neighbourhood of Old Windsor, but the sanction was given and a loan has been obtained from the Public Works Loan Commissioners, the repayment to be spread over thirty years, in equal instalments of 543*l.* 15*s.* per annum. About two years ago a summons was taken out against the Council, and the hearing was adjourned from time to time until about a month ago, when it was finally withdrawn. The contract for the sewer was originally taken by Mr. Kelly, of Windsor, for about 17,000*l.*, but owing to a change of contractors, the amount being very nearly the same, a delay of a year has occurred. For some distance of the route the sewer will be constructed at a depth of 40 feet from the surface, and a great deal of water will have to be encountered.

EPPING FOREST.

A PRELIMINARY report of the Epping Forest Commissioners has been issued. Having detailed their proceedings, the Commissioners remark:—After a careful consideration of the evidence submitted to us, and the arguments urged by the parties appearing before us, and the various authorities cited, and the decision of the Court of Chancery in the suit of "The Commissioners of Sewers of the City of London v. Gasse and others," we are led to the following conclusions:—That over those parts of the waste within the regard of the forest over which your Majesty's rights have not been released or conveyed such rights still exist. That all inclosures within the regard of the forest made since the 21st day of August, 1851, where your Majesty's forestal rights have not been conveyed or released, are unlawful as against your Majesty and the commoners, and that where your Majesty's rights have been conveyed or released, inclosures within the regard of the forest made since the 21st day of August, 1851, are unlawful as against the commoners. That the owners and occupiers of lands and tenements within the regard of the forest, not being waste of the forest or inclosures from waste, have a right of common of pasture for commonable cattle within the forest, namely, horses and neat beasts, levants and couchant, on their lands and tenements aforesaid, as appurtenant thereto, over all the wastes of the forest, according to the assize and customs of the forest. That the present waste of the forest within the regard thereof, as ascertained by us, is 6,021*a.* 0*r.* 23½*p.*, of this quantity 3,041*a.* 1*r.* 6½*p.* are open waste, and 3,006*a.* 3*r.* 21½*p.* are inclosed; that over 3,558*a.* 1*r.* 10½*p.* your Majesty's forestal rights have been conveyed or released, and over 2,462*a.* 3*r.* 17½*p.* they still exist. That, although the public have long wandered over the waste lands of Epping Forest without let or hindrance, we can find no legal right to such user established in law, but this user is a matter for consideration in the settlement of the scheme. Some parties deriving title under lords of manors also appeared before us, but a meane title cannot stand in a higher position than the title from which it derives its origin, and the specialties of particular cases are matters for consideration in the settlement of a scheme, and the cases where houses have been built upon inclosures, as well as those where the land has been brought into cultivation, will have to be considered. Having made the inquiries and arrived at the above conclusions, the Commissioners say:—It now remains for us to proceed with the other inquiries directed by the Epping Forest Act, 1871, so far as may be necessary to enable us to prepare and settle a scheme for the disafforestation of the Forest, and for the preservation and management of the waste lands thereof.

BIRMINGHAM AND DISTRICT ARCHITECTURAL ASSOCIATION.

ON Friday in last week the first annual meeting of this association was held, under the presidency of Mr. J. J. Bateman. There was a good attendance of the members, and the reports of the secretary and treasurer were read to the meeting.

The President, in his address, congratulated the association upon the success it had already attained, both with regard to the work done and its financial position; and impressed upon the members the necessity of a thorough study of scientific construction. He referred particularly to the satisfactory way in which the association was working, and announced his intention of giving a sum of 5*l.* 5*s.* to the prize fund.

The prizes for designs submitted during the past session were awarded to Mr. J. W. Fisher (who received especial commendation for his work), and Mr. A. F. Greening. The usual vote of thanks having been given to the President and other officers, the members of the association adjourned to the Royal Hotel, where a pleasant reunion terminated the evening's proceedings.

EXETER DIOCESAN ARCHITECTURAL SOCIETY.

THE annual meeting of this society was held last week in the College Hall, the Ven. Archdeacon Woolcombe presiding. The Rev. L. Fulford read the annual report. It referred, among other things, to the proceedings taken during the year in connection with the reredos in Exeter Cathedral. The Committee were of opinion that the point of interest in this case was not so much the particular series of sculptural subjects, against which objection had been taken, as the ultimate consequences of the issue raised. The real point was not whether this particular sculpture should be removed, but whether any sculpture at all should be allowed in churches. This ulterior object was evident upon the very face of the proceedings taken. Naturally, therefore, the interest felt in the proceedings was of a very wide extent. Each one began to feel and to think—what next? Each one began to reason fairly that if such sculptures were condemned, what sculptural representations could be allowable. And if such sculptures as these found in the Exeter Cathedral were not allowed, where was a line to be drawn, except that line of utter exclusion of all artistic work of whatsoever kind it might be. The local interest, therefore, was relatively as nothing when set against the widely extended influence which this case exercised in reference to other dioceses besides that of Exeter. The axes and hammers of the spoiler would have been raised against many a work of artistic skill, and many a thank-offering dedicated to God at present to be found in cathedrals and parish churches. The Committee and members of the society, however, rejoiced that these forbodings of possible waste and destruction were withdrawn. The art of man might still be employed to enrich both the interior and the exterior of churches. They were not driven, through the narrowness of prejudice and of opinion, to the miserable necessity of cold, bare, meagre walls and roofs, just enough to keep out wind and weather, with an included area of accommodation, whose only symbolism was room enough to sit.

The Committee proceeded to state that at the last meeting a donation of 105*l.* was announced from an unknown member of the society, which was to be divided in such portions as the Committee thought fit in aid of work proposed to be executed in the churches of four parishes in the eastern part of the county. The only application made was from the parish of Musbury, and the whole donation had been granted in aid of the work at present in progress in that church. A donation of this kind, entrusted to the Committee, might frequently be found of much service in promoting, in specified districts, the repairing and refitting of churches.

The following officers were elected:—Patron, the Bishop of the Diocese; president, the Right Hon. Sir S. Northcote, Bart., M.P.; vice-presidents, Sir T. D. Acland, Bart., M.P., Lieut.-Col. Garratt, Rev. F. Sterry, and Mr. J. D. Podo; hon. secretaries, Rev. J. L. Fulford and Mr. B. C. Gidley; treasurer, Mr. W. Miles; hon. architect, Mr. J. Hayward; curator, Mr. P. B. Hayward.

Mr. R. J. King read a Paper on Crediton Church. He said the church, although not of the first architectural importance, deserved careful study and attention. It was the principal collegiate church of the Diocese, and, for some time after the removal of the See, it was served by a body of clergy equal in numbers, and, to all appearance, in wealth, to those established around the new Bishopstool at Exeter. The building itself offered some architectural problems not very easily solved, and it was by no means of that one period which its external uniformity seemed at first sight to assert. The first recognised centre of the English Church in Devonshire was unquestionably Crediton. As no portion of the existing church was earlier than the middle of the twelfth century, it was uncertain whether this church occupied the site of the more ancient building—the Cathedral of the Bishops of Devonshire before the removal of the See—in spite of Leland's assertion that "the place where the old Cathedral stood is now (1540) occupied with buildings of houses by the new churchyard side." "The older church," he adds, "was dedicated to St. Gregory." There was still an indistinct belief that this older church occupied a site north-west of the present churchyard. Leland's tradition, however, was marked by one undoubted error; and it was quite possible that the site of some early chapel had been mistaken for that of the Saxon Cathedral, which was, as they knew from authentic sources, not dedicated to St. Gregory, but to the Blessed Virgin. It was possible that this Saxon church was also dedicated, like the present one, in honour of the Holy Cross. So far, however, he thought there was no reason for rejecting the local tradition which made the present church of Crediton stand on different ground from that occupied by the Saxon Cathedral. Mr. King referred at length to the documentary evidence of the construction of the present building, and gave elaborate descriptions of the church in its present form, and of the various changes through which it had passed. The type of the building was hardly a Devonshire one; in fact, there was no church throughout the county which could be said to resemble Crediton. The use of the dark trap, sharply contrasted with white Beer and Portland stone, was one of its distinguishing features, especially when the contrast was carried out so completely and so far as in the present case. The windows, especially the aisle windows, with their deep recesses and hollow mouldings, were finely designed. Their number, and the great size of the clerestory, gave the church somewhat the character of a lantern; but it must be remembered that they were originally filled with stained glass, of which not a fragment remained. Westcote, writing early in the seventeenth century, described a great mass of "armorials" as still existing in the windows. Of these many were coats of the Bishops of Exeter, of the Courtenays, and other great houses connected with the county, and of numerous benefactors living in the neighbourhood. Besides all this armorial glass, the windows blazed with figures of saints and holy personages, so that the flood of light of which complaint was now made was tempered and softened. No church in the county had undergone a more complete "dowsening,"—to use the only word which expressed the entire destruction of such ornaments and colour as were within the reach of destroying hands. The beauty which once made rich the place of the sanctuary had nearly all disappeared, and some of it had no doubt been

sacrificed to the sustentation and good cheer of former governors. The whole church (except the Lady Chapel) underwent a restoration of the walls and roof about the year 1854. Some portions of the walls were then recessed, and they were indebted to Mr. Hayward for a complete cleansing of the interior from the whitewash with which every part of it was covered. The fine colour of the stone had thus been restored, but there was hardly a church in the Diocese in which (always excepting the condition of the fabric itself) so much remained to be done. Unfortunately the timber of the roofs, above the plaster ceilings, was sound and strong; and still more unfortunately the wood-work of the high pews—some of them of the old square type, and some narrow and uneasy—was too firm to be easily shattered. The arrangements of the chancel were so entirely at variance with all ecclesiastical propriety, that it was hardly possible to describe or to criticise them. The Lady Chapel was in a half ruinous condition, and must speedily fall if its restoration was not at once commenced. Other large churches in the diocese—Tiverton, Gullompton, Ottery, not to mention a host of smaller ones—had been restored to much of their ancient beauty, sometimes, perhaps, to more than they could boast of in their earlier days. Crediton alone remained stripped, and desolate of all ornament but such as was necessary for the carrying on of Divine service with the barest decency.

THE RESTORATIONS IN PARIS.

MR. JOHN LEIGHTON, in a letter to the *Times*, supplies the following notes as to what has been done in the way of reconstruction in Paris. Portions of the Palace of the Tuilleries and the Hotel de Ville are still in ruins. The Pavilions next the Louvre are completed as before. The Palace portion is to be rebuilt after a different design by the same architect, Philibert de L'Orme. It will have open arcades below, through which the Champs Elysees are to be seen. A route traversing the garden close to the Palace will unite the Rue Castiglione with the Pont d'Orsay. The Hotel de Ville will occupy the same site as before, an entirely new Renaissance design having been prepared for its re-erection by Ballu and Deperthes. The work is expected to take about six years. The space once occupied by the Ministry of Finance has been sold for the erection of private houses, in order that the Rue de Rivoli might be completed. The Pavilion of the Louvre facing the Place du Palais Royal, in which the Art Library was burnt, is being restored. The Palais Royal *en face* has been finished as before. The Palace of the Legion of Honour was one of the earliest renovated, and the damage at the Palais de Justice is made good. The Foreign Office has been repaired, though the Conseil d'Etat is still in ruin. Of the churches Notre Dame has recently had 200,000*fr.* spent upon it, and St. Eustache is still under repair. Of the theatres, the Porte St. Martin has now been built some time, while an entirely new one, the Renaissance, occupies the space of the cafés and houses adjoining. The Theatre Lyrique, too, is restored. Of the columns, that overthrown in the Place Vendôme rears its head once more, and preparations are being made to crown it with the statue by M. Dumont, as before. The Column of July, on the Place de la Bastille, has had its base mended. Of fountains, the Chateau d'Eau, by Jacquenard, is scarcely finished, the details having been altered and the whole improved; it suffered severely, as also that on the Place de la Concorde, though the latter was soon replaced. A new figure of Strasbourg occupies the angle close by; it was recut from the original model by Le Quesne, a pupil of Pradier, its sculptor. At St. Denis works are in progress. St. Cloud will possibly remain a gaunt record of destruction. The cutting of new boulevards seems to have been abandoned—at least, for a time. In a few years Paris will appear much as before, though, of course, internally the treasures lost to it can never be replaced.

THE NATIONAL PORTRAIT GALLERY.

THE trustees of the National Portrait Gallery, in their eighteenth annual report, state that during the past year six donations of portraits have been received, and ten purchases have been made. This increases the number of donations to 121, and the number of purchases to 280. The donations are:—Sketch in oil on a small mahogany panel of Sir Walter Scott, by Landseer, presented by Mr. Albert Grant; a marble bust of Mr. Charles Knight, by Mr. Joseph Durham, A.R.A., presented by the sons and daughters of George and Mary Clowes, Mr. Knight's grandchildren; a drawing in chalk, by Sir Thomas Lawrence, of Mr. Samuel Rogers the poet, presented by Mr. Henry Rogers, nephew of the poet; an oil painting of Margaret Douglas, Countess of Lennox, mother-in-law of Mary Queen of Scots, presented by Dr. Hugh Diamond, F.S.A.; oil painting of Anne Clifford, Countess of Pembroke and Montgomery, at the age of eighty-one, presented by Mr. George Scharf, F.S.A.; and a portrait by Mr. I. Hayes of Miss Agnes Strickland, presented in accordance with her will by her sister, Mrs. Gwillim. The purchases made during the year are portraits of Edmund Burke, Warren Hastings (by Sir Thomas Lawrence), Lord Chancellor Loughborough, Lord Nelson, Lord Chancellor Thurlow, and Miss Mitford; plaster casts of King Henry IV. and Queen Joan or Navarre, his second wife, from the alabaster effigies on their monuments in Canterbury Cathedral; and a bust of Mr. John Zoffany, R.A. The number of visitors to the gallery in the year 1874 was 65,201. The trustees again urge upon the consideration of the Government "the difficulties which still impede an advantageous display of the portraits and works of art intrusted to their care, owing to want of space."

The Ryde Town Council have decided that in future it should not be obligatory on those who build semi-detached houses to carry party walls up through the roof. The object, it was alleged, in compelling builders to take the wall through the roof was to prevent the spread of fire, but it gave the builders a great amount of trouble, and rendered it difficult to make the roof water-tight.

SALE OF ENGRAVINGS.

A COLLECTION of high-class line engravings was sold by Messrs. Sotheby, Wilkinson and Hodge last Monday and Tuesday, in which were the following by Raphael Morghen:—"The Last Supper," after Leonardo da Vinci, 64*l.* 10*s.*; "The Poets," 16*l.* 10*s.*; "The Transfiguration," after Raphael, 32*l.* 10*s.*; "The Magdalen," after Murillo, 15*l.*; and "The Aurora," after Guido, 32*l.* 10*s.* By Desnoyers:—"Faith, Hope, and Charity," after Raphael, 22*l.* 10*s.*; "La Vierge au Poisson," after Raffaele, 16*l.*; "La Vierge au Rochers," after Leonardo da Vinci, 22*l.* 15*s.*; "Heliodorus and Attila," after Raphael, by Anderloni, 23*l.*; "The Immaculate Conception," after Murillo, by Lefevre, 25*l.* 10*s.*; "Lo Sposalizio," after Raphael, 28*l.*; "La Sybilla Cumæa," after Dominichino, by Perfetti, 14*l.* 17*s.*; "The Triumph of Galatea," after Raphael, by Richomme, 16*l.*; "La Madonna di San Sisto," 21*l.* 15*s.*; "Cleopatra," after Guido, by Strange, 16*l.* The two following were from the frescos of Corregio at Parma:—"La Madonna della Scala," 22*l.* 10*s.*; "Lo Spasimo di Sicilia," 30*l.* Total, 1,146*l.* 4*s.* 6*d.*

NOTES ON NOVELTIES.

The General Machinery Purchase Hire Company.

This company has been established for the purpose of supplying machinery to builders and others on the three years purchase system, and the plan is so simple that it seems a marvel it has not been adopted at an earlier date. According to the prospectus (which we have just received) each customer is permitted to select the machinery he requires from any maker he pleases, and the company will supply it at the maker's advertised price. The customer will not be required to execute a bill of sale, or any other document that requires registration or publicity of any sort. It will only be necessary for him to pay a small sum on the completion of the purchase, and the remainder may be paid in monthly or quarterly payments extending over three years. For instance, a builder is desirous of purchasing a portable engine, or wood-working machine at a cost of say 100*l.* On the yearly system he will have to pay the company 10*l.* down, and 96*l.* in twelve monthly payments of 8*l.* each. He has the use of the machinery during the term of repayment, and at the end of the specified time it becomes absolutely his own.

The company has only been established a very short time, but it has grown with such rapidity that its transactions amount already to upwards of 200 per month. This extent of business is far beyond the capacity of any private firm, and we are therefore not surprised to learn that it is intended to turn it into a joint stock company, the prospectus of which will, we are informed, be issued in a short time.

Morris's Measuring Instruments.

Two handy little instruments have been invented by Mr. E. Russell Morris, of Birmingham, which are well worth the attention of architects and surveyors, and, indeed, of all who have at any time to use a measuring tape or to scale topographical plans. Both instruments resemble, and are about the size of, a watch, with the addition of a wheel which partly projects, and by the motion of the latter, hands are made to revolve around a dial plate which is divided to correspond with different scales. One instrument is a substitute for the ordinary measuring tape, and by its aid it is possible to find lineal dimensions with the utmost accuracy. All that is necessary is to hold the instrument between the forefinger and thumb and to let the wheel travel along a line, when the distance is recorded in feet, inches, and parts on the dial plate, up to 100 feet. But one person is required for measuring; for this as well as on other accounts (supposing there is a definite line to go upon) the instrument has the advantage of the tape, especially for indoor work.

The second instrument is known as "the Chartometer," and has been constructed upon a similar principle, but the dials are graduated in miles, furlongs, and yards, and several scales are supplied to correspond with the different sized Ordnance plans. This is an invaluable instrument to surveyors. It is almost as easy to move the wheel as it would a drawing-pen or a brush along the lines representing roads, rivers, fences, or coasts. The distance traversed is recorded as before, and by the aid of a register it is impossible for the hands to make an overlooked revolution. Most surveyors possess some kind of instrument to answer these purposes, but "the Chartometer" has merits which must supersede them all.



Concrete Construction.

SIR,—I observe that in your report of the discussion upon Mr. Smith's Paper at the Institute on Monday last, a remark of mine upon concrete appears to bear a meaning the exact reverse of what was intended. I wished to say that if concrete is made, as in my opinion it should be, more or less honeycombed, and not in a solid mass, water will run through it pretty freely, but that it will not draw through by capillary attraction, and that consequently any sort of skin of plaster will render a wall perfectly dry. I may add my reason for thinking that concrete should not be a perfectly solid mass. If a hard and non-absorbent material, such as ordinary clean ballast, is used, it is sufficient that each stone should be attached to its neighbour by just so much neat cement as will form a joint at the points of contact, but that to fill up all the interstices is unnecessary, and is consequently a waste of cement. It is not unusual to use sand

to effect this object, but I believe the effect of this would be rather to weaken than to strengthen the concrete, as probably a doctor would rather administer to a patient a small quantity of brandy than a large quantity of brandy and water.

I think also that the use of sand, to make of the concrete a solid body, would promote capillary attraction, and concrete so made would therefore be less likely to make a dry wall than the honeycombed sort. With the latter no damp course is necessary.

18 Manchester Square, W.
May 31, 1875.

Your obedient servant,
FRED. P. COCKERELL.

General

A Paper on the "Seal and Charters of the Empress Mathildis," by Mr. W. de Gray Birch, will be read at the meeting of the British Archaeological Association on Wednesday next.

The Death is announced of Johann Adam Klein, the Nestor of Munich artists, at the age of 83. He painted animals and genre pictures in oils and water-colours, but distinguished himself most by his etching which, by their happy combination of landscape and figures, and their precision of treatment, recalled the best Flemish works.

The Colossal Statue of Hermann, which has been the lifetime's production of Herr von Bandell, a Westphalian nobleman, is to be placed on a hill overlooking Detmold, the capital of Lippe, and will shortly be unveiled with great ceremony, all German sovereigns and senates of the Hanse Towns having been invited.

The Original Manuscript of Gray's "Elegy in a Country Churchyard" was sold last Saturday by Messrs. Sotheby, Wilkinson & Hodge. It contains many variations from the poem as now printed, notably the names of "Cæsar" and "Tully" instead of "Milton" and "Cromwell," and many alterations, erasures, and corrections, which show the anxious care bestowed upon its composition. It was bought by Sir William Fraser for 230*l.*, having been sold by the same firm about twenty years ago in the Penn Collection for 131*l.* In the same sale was the manuscript of Dickens's "Christmas Carol," which was bought by Mr. Harvey for 55*l.*

Lealie House, an old thatched dwelling house, and one of the most ancient in Melrose, is being taken down. A prominent and somewhat peculiar feature in the external appearance of the building is a gable which fronts the street. A substantial block, consisting of three shops with dwelling houses above, is to occupy the site.

The Church Accommodation in the diocese of Norwich is 10 seats for every 22 persons; York has 10 for 47; Chester 10 for 49; Manchester 10 for 57; Bangor 10 for 58; Carlisle 10 for 66, and the diocese of Durham 10 seats for every 67 persons.

A Limited Liability Company, called the Freehold Villas Trust Society, has been formed for the promotion of facilities for obtaining houses of a better class than can be had through the medium of the ordinary building society.

The Foundation Stone of a public hall in Stafford was laid on Monday, by Mr. H. D. Pochin, who has contributed 3,000*l.* towards the erection of the building. The building is to be at the service of the different friendly and benevolent societies of the town free of expense.

A Return made by the Rural Deans states that a sum of 195,569*l.* 9*s.* has been expended in church building and restoration by the Archdeaconry of Bath in sums exceeding 500*l.* since 1840.

The Metropolitan Asylums Board have purchased nearly 100 acres of land at Darinthe, near Dartford, Kent, on which to erect a home for imbecile children.

The Irish Court of Queen's Bench have decided against the attempt of the Corporation to make the Port and Docks Board responsible for the cleansing of the Liffey. The matter came before the Court on a case stated by the police magistrates, who recently heard the arguments of both bodies in the summons taken out by the Corporation against the Board. The Court held unanimously that the Port and Docks Board were not responsible for the cleansing of the river, their duties having regard solely to its navigation.

The Committee of the Peace Society have written to Miss Thompson, the painter of the *Roll Call*, expressing the hope that her talents might be so applied in dealing with military matters as that the false notion of the glory of war might not be stimulated.

The Plans and Estimates have been approved by the Middlesex Magistrates for new works at the County Lunatic Asylum, Banstead, as follows, viz.:—For the erection of boundary walls, gateways, entrance-lodge, and weigh-bridge, 8,879*l.*; farm buildings and fencing, 7,700*l.*; boundary walls, 707*l.*; mortuary, 300*l.*; besides a third Lunatic Asylum at a cost not exceeding 18,500*l.*

The London Tavern was offered for sale on Wednesday. It contains 6,500 superficial feet, and the highest offer was 84,000*l.* As the auctioneer stated it was expected to realise at least 100,000*l.*, the vendors bought in the property.

The Greenock Parochial Board have decided to proceed with the new asylum and poorhouse at Smithstone at a cost of 78,599*l.*, this sum including 7,000*l.* for cost of site. The original estimates for the buildings amounted to 46,000*l.*

The Dunoon and Kilmun School Board have resolved to borrow 15,000*l.* from the Public Works Loan Commissioners for building schools in different parts of the parish.

The Architect.

THE CLOSING MEETING OF THE SESSION AT THE INSTITUTE.



ON Monday evening the Hall in Conduit Street was sufficiently well filled, and there were present a sufficient number of the leading men of the profession, to do full honour to Mr. EDMUND SHARPE as the recipient of the Royal Gold Medal of the year, the presentation of which was the chief business of the meeting. There was a good deal of interest involved also in the announcement of the various distinctions recently won by the young aspirants connected with the Institute, as well as in the bestowal by the President of the gifts and compliments attached to their success.

An hour's discussion of Mr. ROGER SMITH'S Paper on the important subject of New Building Materials and Appliances concluded the sitting, and brought the session of 1874-75 to a close.

There were, however, incidentally mentioned two losses which the architectural profession has just sustained by death, upon which it is impossible to avoid saying a few words in the first place. Whatsoever may have been his faults, there is no one in the whole list of his brethren but will have felt sincere regret on hearing that Mr. WHEAT PUGIN is no more. Mr. JOSEPH JAMES also, although far less extensively known either to the world or to the profession, was a man whose acknowledged ability was such as to entitle him to more than ordinary respect. Of both it may be added that their sorrows gave them a still further claim to the consideration of generous minds.

The PUGIN family has given to English architecture three very remarkable men, and in some respects the last has been the most remarkable of the three. Inheriting, with all the artistic enthusiasm of his name, a wild impetuosity of personal character which far surpassed the nevertheless ample eccentricity of his father, before which in its turn the sufficient quaintness of the grandfather was as nothing, the third and last of the PUGINS has gone to his grave at a comparatively early age, literally worn out with the warfare of a continual struggle single-handed against a host of troubles, social, professional, commercial, religious, litigious, and artistic, which it would be idle for us to say would have overwhelmed any other man long ago, because we know of no other whom nature had endowed with the fierce and uncompromising combativeness of soul which so recklessly provoked them and defied them, and which only now in death has at length succumbed to the unceasing strife. There will no doubt be fresh in the recollection of our readers the more disastrous results of this perpetual pugnacity which rendered his name somewhat notorious not many months ago. We felt at the time that he was more a subject for magnanimous commiseration than for vindictive resentment, and that indeed the coercion of laws and the enforcement of formulas was with such a man almost a mistake. Of the two acts of condemnation to which we more particularly refer, namely, the rebuke at the bar of a Criminal Court and the expulsion from the Institute of Architects, the latter we could not help directly suggesting at the time seemed particularly ungracious; and we trust we need have no hesitation in saying now that if it had been suspected that the end of his career was so close at hand, no one of his fellows would have been found willing to sanction so profitless a judgment; indeed we still venture to hope that one of the first acts of a new session of the Institute will be a cordial recognition of his undoubtedly great merits, with something not unlike an expression of regret that, for the sake of appearances, his connection with the professional Society should have been, although not necessarily for ever, brought to a close.

In presenting to Mr. SHARPE the royal gift which is not inaptly looked upon as the highest distinction of the profession, Sir GILBERT SCOTT brought all his most graceful and kindly rhetoric to bear upon his task. It is especially characteristic of the accomplished President that he never loses a fair opportunity of magnifying the glory of Gothic architecture; and on this occasion the opportunity was certainly as good a one as had ever offered. The particular successes on which were based the claims of Mr. SHARPE to so high an honour were his authorship of those treatises on Mediæval remains which are so well known in connection with his name. The Abbaye especially had been Mr. SHARPE'S study from his youth up, and their illustration in the minutest detail his continual delight. The peculiar beauty of what may be called the Abbey Gothic of England has long been recognised; and the need that exists for a continuance of such faithful and assiduous attentions as Mr. SHARPE'S was very well shown by the remarks of Mr. EWAN CHRISTIAN, who described with almost eloquent indignation the effect within his own experience of five and twenty years' actual neglect upon one of the most beautiful of the still extant examples—if some other term than extant ought not to be employed to describe a state of decay in which every succeeding winter converts a more and more considerable proportion of the remains into absolute dust

and ashes. Besides referring to his services in the illustration of these admirable models of Mediæval architecture, Sir GILBERT SCOTT had the courage, we were pleased to find, to point directly to Mr. SHARPE'S organisation of the popular excursions of the Architectural Association in France as a work deserving of the warmest approbation of the Institute. We have before now expressed our sense of the great practical value of these little trips of travel, and we are glad to find that it is intended still to continue them, and that in fact Mr. SHARPE has already mapped out the route which is to be taken next autumn, in the region, as we understood, of Languedoc. On the whole, Mr. SHARPE'S triumph on Monday night was eminently satisfactory to all concerned; and it may not be out of place to add that amongst the medallists who came down to assist at the introduction of their new colleague, it was especially gratifying to see Sir DIGBY WYATT, whose recovery so far from serious indisposition was warmly recognised by the meeting.

The presentation of the Soane medallion to Mr. NASH junior was, in the circumstances attending upon its award, very creditably received by those present who might possibly have been expected to exhibit in some way their preference for another competitor; but the appearance of Mr. SCOTT, as the recipient of the special honour awarded to the second in order, was nevertheless welcomed in a way which, without in the slightest degree wounding his more successful rival, must have been particularly grateful to himself as a mark of popular approbation. After the medals and money and books, however, had been most respectfully received by these young gentlemen and others, there came a certain number of certificates of approval; and it could not fail to be remarked that the competitors to whom this class of honours had been awarded did not seem to set much store by them, for with scarcely any exceptions they made themselves conspicuous by their absence. We mention this for the mere purpose of suggesting that it might perhaps be well for the Council to take this as a hint that another medal or two in lieu of the certificates as a whole would be deemed more acceptable.

The Voluntary Architectural Examination does not appear to have been altogether successful this year. The examiners, as we are informed, were Messrs. AITCHISON, TAYN, and ROGER SMITH; and the moderators Messrs. R. P. SPIERS and QUILLER; and it might not be amiss if some of these gentlemen would explain how the result we allude to has come about. The standard portion of the examination scheme, as our readers know, is a "pass" called the "Proficiency Examination;" but in order to induce students of more tender years to make a beginning, there has been a prefatory "go" invented under the name of the "Preliminary Examination," which is of course confined to very elementary matter, and which in fact counts for almost nothing, except as an incentive to come up another time in order to win the certificate of proficiency. Now on this occasion it would appear that five candidates in proficiency had come forward, of whom all passed in the one department of Art whilst only two of them passed in the other department of Science. A small number of younger students also came up in the preliminary class, and all passed—as indeed all ought. But now comes the curious result. The ASHPITEL prize, a handsome collection of books which forms the reward for the greatest merit in the examination, has been given to one of the very junior men of the preliminary class, the five comparative seniors who are successful in the proficiency class being wholly passed over. There are two theories which may be here supposed to suggest themselves. On the one hand the five proficiency men, although they have passed, may have done so somewhat unsatisfactorily; wherefore the examiners may have been led to think it desirable that an admonition should be administered to their successors by the bestowal of the prize upon one who in the junior class had passed with more *credit*. On the other hand it may perhaps be the case that Mr. HAZENBERG, whose name we have to mention with honour in any event, was held to have so distinguished himself, although nominally only in the preliminary class, really in general knowledge, as to excel even his seniors, and thus to deserve the prize in preference to them. But still it must be matter for regret that already the manifest intention of the founder of the prize should have been set aside; for Mr. ASHPITEL knew nothing of a "Preliminary Examination," the idea of which has been introduced since his death. Nevertheless, if a word of explanation could be had, we do not despair to find that the somewhat demonstrative act of bestowing the prize upon a mere preliminary candidate may be shown to have a salutary meaning.

The discussion on New Materials and Construction we can scarcely enter upon conveniently for want of space. We may say however that it was not by any means deficient in that spirit of scientific argument which we hold to be so important a requirement in the Institute. Concrete and selenitic mortar had the lion's share of the debate; and if these subjects should be thought somewhat insufficient representatives of the great field of building progress, it must at any rate be acknowledged that there is a good deal to be said on more sides than one about both. The remarks of Mr. EDWARD HALL on the Crystal Palace style of construction were also very instructive, for he clearly showed that the use of timber in edifices of that class to such an extent as to render them highly combustible instead of the reverse is a radical anomaly. As regards their artistic value, the second PUGIN'S gentle rebuke of PAXTON'S vainglory was especially apt—"You shall build the Greenhouses, and I will take the Cathedrals!"

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

The Roman Plays.—No. I. *Coriolanus*.

THE early days of Rome are known to us only in the form of legends, tales, or stories, and not as history or contemporary record. The legend most favoured by the Romans tells us that the town was founded by ROMULUS or ROMUS, a descendant of the Trojan hero AENEAS, the mythic son of APHRODITE, who is supposed to have escaped from Troy, and after sundry flirtations with winds and waves in the Mediterranean, and with ladies on the coast of Africa, found rest at last in the Italian peninsula. After this ROMULUS, reigned certain kings of whom stories are told as mythical as those concerning "the founder." But out of the legend we gather here and there fragments which are capable of being pieced together into something like a probable entity. Thus, close by the Latin city of Rome, the *Mons Palatinus*, were certain Sabine and Etruscan settlements: one of these, the Sabine town of the Quirites, called Curium, stood on the hills to the north, or the Mons Quirinalis and the Capitoline. These two towns appear to have early made a league, but instead of remaining two cities or forming one people, they assumed the position of two distinct peoples, yet free citizens of the one city of Rome. The early kings were not hereditary, but were elected alternately from the Romans and the Quirites. We have the names of seven of these monarchs. The fifth and seventh were Etruscans from Tarquinii, and the last, LUCIUS TARQUINTUS SUPERBUS, described as cruel and lawless, was deposed and banished B.C. 510. The acts of this king, of his son SEXTUS in the case of his cousin's wife—to which SHAKESPEARE devotes his longest poem—and the ill odour which appears to have enveloped the whole family, were too much for the Romans, and so they determined to have no more kings, and entrusted the Government to two leaders, afterwards called Prætors, and later still Consuls. Under the kings the people had been divided into the two classes of Patrician and Plebeian. When the monarchy came to an end, the leaders and magistrates of Rome were elected from the Patricians by the whole body of the people; but after a little while the Plebeians rose against the idea of the Patricians enjoying special privileges, and, after much stormy disputing, the Plebeians gradually gained the day, and at last, in B.C. 366, they elected one of themselves to be Consul. Now the story of CORIOLANUS comes to us as a legend, and long before the time of authentic history. It belongs to the period of the Commonwealth, and is therefore subsequent to B.C. 510. But it must also be subsequent to B.C. 494, for in that year the Plebeians, impoverished by war and smarting under oppression, retired to the Mons Sacer, three miles from Rome, and could not be induced to return until the right of appointing tribunes was conceded them. At first the number of the tribunes was limited to two, but in B.C. 457 the number was increased to ten, and our play presents us with five, so that the story must fall between the years 494-457. But the text says CORIOLANUS was sixteen years old when TARQUIN besieged Rome. If this refers to the story of the last attack CORIOLANUS must have been born B.C. 514; he would consequently have been twenty years old when the first Plebeian Tribunes were appointed in 494.

And now what sort of towns were Rome and Corioli in those early days—the days of DARIUS, King of Persia? We can have very little hesitation in replying that Rome, like Corioli, was essentially Etruscan. The later or Etruscan kings had done much to improve Rome by the erection of new buildings and a general encouragement of their native arts. So, therefore, it is to Etruria and her Asiatic birthplace we must turn if we wish to get an idea of Rome before its destruction by the Gauls (B.C. 390).

Of Etruscan buildings very little now remains; amphitheatres, theatres, city walls and tombs may be seen, but no temples, palaces, or dwelling houses. At Tusculum and Arpino pointed arches with horizontal joints occur very similar to the early Greek work at Thoricus and Mycenæ. Sutri still possesses its amphitheatre, cut, as so many of the tombs are, out of the solid rock. But in none of these works is there the slightest indication of anything approaching elaboration, and if any "order" existed it was most likely to have been some simple form of the Ionic, or in other words one founded on Asiatic traditions. We have the arch proper (of radiating construction) in Assyria—in the drain beneath the south-east palace at Nimroud—we find it in Etruria and in the Etruscan work of the Cloaca Maxima, built during the Roman monarchy. We have in Greece—at Thoricus and Mycenæ—the pointed arch built in horizontal courses, and we find it again in Etruria,—at Cære, Arpino, and Tusculum, whilst at Assos in Asia Minor the pointed and the semicircular arch occur in the same gateway one behind the other. The natural inference of this is that the early architecture of Rome was that of Etruria, and that the architecture of Etruria, like its people, descended through the Pelægic from the Asiatic race. The bracket capital, of which the Ionic was the final outcome, may therefore be taken as the index of the style. The temples and palaces were no doubt small, and in great part constructed of wood, the material so much favoured in Assyria and Syria. The ordinary houses would scarcely be of more durable material, but the town walls, gateways, and tombs were evidently of stone strongly and

carefully knit together. VITRUVIUS says the Etruscans had two kinds of plans for temples, one circular like their tumuli, and one rectangular, arranged with three cellæ. Both, however, were comparatively small, in fact, building appears to have flourished in this confederacy more under the engineer than under the architect: for even the tombs at Castel d'Asso show nothing more than sloping walls, sloping door jambs, and extremely broad mouldings relieved by small members, the section of which is unlike anything we know as Greek or Roman. But on the other hand, CORIOLANUS tells us (Act iii., Sc. 3) that his Rome had "large temples"; and that the seaport town of Antium was a "goodly city" of "fair edifices." Turning now to the scenery as set down in the play, we find no less than twenty-eight scenes, twenty of which are architectural. These twenty are divided between the cities of Rome, Corioli, and Antium. In Rome we have—

1. A street. (Act i. Sc. 1, which may be made to serve for the public place in Act ii. Sc. 1; Act iv. Sc. 6; Act v. Sc. 1 and 4; as also for the street scenes, Act iii. Sc. 1; and Act iv. Sc. 2.)
2. An apartment in MARCIUS's house. (Act i. Sc. 3, which may also do duty for Act iii. Sc. 2.)
3. The Capitol. (Act ii. Sc. 2.)
4. The market-place. (Act ii. Sc. 3, and Act iii. Sc. 3.)
5. Before a gate of the city. (Act iv. Sc. 1.)

Here the most important architectural scene is that numbered 3, which, under the word "Capitol," introduces us to the interior of the temple of JUPITER, designed under TARQUINTUS PRISCUS, finished during the reign of the last king, LUCIUS TARQUINTUS SUPERBUS, and dedicated in the third year of the Commonwealth or Republic, B.C. 507. Nothing whatever now remains of this Etruscan work. All we know is that it had three cellæ side by side under the same roof: the central one, larger than the others, was dedicated to JUPITER, that on the left to JUNO, and that on the right to MINERVA. Of the other scenes I have only to say that the character of the buildings would partake very much of that already described in my first article on the Greek plays, in the *Architect* of May 8. The walls of the city and the lower storeys of the better class of houses would be built of large blocks of stone, squared in courses or polygonal. Going round the city we should see arched or semi-circular-headed gateways, square flanking turrets or towers, and embattled walls. Within the houses, courts, with small rooms surrounding them, might be seen, and where upper storeys occur, colonnades might be introduced on the top of the ground-floor walls, the whole covered either with flat or pointed roofs. In the best of the Patrician houses we should find two such courts, the outer one for the men, and the inner one for the women, and it would be in this last that the third Scene of the first Act would take place. The houses of the Patricians would be of stone, terra cotta and wood, the tenements of the Plebeians would be mere hovels, chiefly composed of wood, mud, and thatch.

Turning now to Corioli the architectural scenery consists of

1. The senate-house (interior, Act i. Sc. 2).
2. Before the walls (Act i. Sc. 4 and 7).
3. Within the town.

The walls, gateways, and streets would be much the same as in Rome, and the Senate House might be constructed on the theatre plan—a semicircle with raised seats, perhaps cut out of the solid rock, and covered with a velarium. Passing on to Antium we have

1. An open place before the house of AUFIDIUS (Act iv. Sc. 4).
2. A hall in the same house (Act iv. Sc. 5).
3. A public place (Act v. Sc. 5, may very well be the same as No. 1).

Here we have only to deal with the house of the "General of the Volscæ," and taking into consideration the words of CORIOLANUS in the opening speech of the fourth Scene of the fourth Act, we may not be wrong in assuming this house to be the most palatial-looking residence of the three towns illustrated in the scenery of this play. The exterior would probably be little different from those already described in my third article on the Greek plays (p. 298). The interior is here clearly the atrium or *aræa*; the roof might have been supported by square or round pillars, but possibly only by four cross beams. Whichever way we take it the scene can hardly fail to be impressive if properly carried out. The dark, muffled, meanly-clothed figure of CORIOLANUS, the busy servants, the chaplet-crowned gay AUFIDIUS, the bright painted walls, the terra-cotta figures and ornaments, the fountain, the shadowy recesses, the soft notes of the flute, and the murmur of the wine drinkers (for dinner is just over, the tables have been changed, and the servants are fetching the wine), are ingredients for a picture, on stage or canvas, which could scarcely fail to command the attention of multitudes—that is if the lime-light did not exist. So long, however, as theatres are what they are, it is sincerely to be hoped no one will be quite fool enough to attempt to put this play upon the stage. The scenery is extremely difficult to arrange, the costume as yet hardly understood even by the best antiquaries, and above all there is no actor living who can act, speak or even *look* the part of the hero of this tragedy, and certainly no actress physically or mentally capable of impersonating VOLUMNIA. Modern actors and actresses have no conception of the drama directly it

becomes poetry. The dignity and beauty of art are old-fashioned things, quite out of keeping with the modern spirit that delights in chaff and mockery, and fondly believes them to be the outcome of wit. To mock at love, religion, education; to jeer the unfortunate; to chaff the suicide; and ridicule the justice and majesty of the law are the things which succeed if done with a sufficient amount of absurdity, and I may add accompanied by a sufficient number of pretty girls and pretty songs. This *mockery* is unquestionably the central spirit of the age, and those who take it and mould it for the stage into an hour's amusement for us are the artists who, perhaps, best represent, and who will be most identified with, the age. Of Mr. GILBERT and Mr. SULLIVAN we ought only to speak in words of praise: their work within the limits assigned is wholly admirable and altogether to be preferred to the dull commonplaces or the smart impertinences of modern English "comedy." But of the people who, having become tired with burlesque of classic myth, and, bored with stazy reflections of their own vapid lives, now prefer to see the passions of their own lives burlesqued rather than demand the poetical drama, and by the demand cause the supply of the poetical or artistic actor—of these people one might fairly hold opinion with PYTHAGORAS, that souls of animals infuse themselves into the trunks of men.

Having delivered one more word against that detestable pretence, the modern stage, I would say a few words on the costume of the people and time to which the play refers. And first we must remember that in costume as in architecture the Roman style, as we generally understand the expression, had no existence—had not, in fact, come into being at the period above fixed as that wherein we must seek the date of the action, viz., B.C. 494–457. Etruria is the first country to which we ought to look, and it is fortunate that we possess in the British Museum a singularly interesting Etruscan monument that contains in the modelling of its burnt clay almost all the information we can need for completing the *mise-en-scène* of Coriolanus. The visitor to the Museum, having passed along the Roman gallery, finds himself at the upper end of the Great Egyptian room or gallery: here in a central position, cutting off, so to speak, the end of the large room, so that it appears as a cross gallery in continuation of and uniting the Roman and the Græco-Roman rooms, is the terra-cotta Etruscan monument to which I have referred. This large and valuable relic belongs to the Castellani Collection, and was found at Cervetri, the modern title of the old Etruscan city of Cære—a city of great antiquity and territorial importance, and in such close connection with Rome that she received the vestal virgins when the Gauls cried havoc and let slip their dogs of war upon the banks of Tiber. Now let any one examine well the figures in the single combat represented in the bas-relief on the front of the monument, and then go to the first vase room and look at the figures of HECTOR and MENELAUS fighting over the body of EUPHROBOS on the Greek pinax or plate in the table case, at the upper end of the room, or if he inspects the bas-relief with Mr. THOMPSON'S admirable photograph of the pinax in his hand, he cannot fail to recognise an extraordinary similitude between the Etruscan model and the Greek painting, which Dr. BIRCH dates about B.C. 600. If, again, we compare the civil costume represented on the Cære Monument with those exhibited on the Assyrian slabs and the fragments in the table cases, we cannot long hesitate in arriving at the conclusion that the men of Corioli and the inhabitants of Rome and Antium before the Gaulish invasion still obeyed in externals at least the Asiatic influence of tradition. Compared with the Greek and later Roman costume, the dresses of the figures before us show a marked scantiness of material. The women's dress consists of a tunic reaching to just above the ankle, cut square, looped with two or three buttons, making it high in the neck, and producing short shoulder sleeves. This tunic is secured by a very broad waist or breast-belt, and over the shoulders and arms a capacious shawl is worn, which is evidently used as the outdoor garment and ordinary covering for the head. The hair is dressed in more than one fashion, but a caul confining the back hair and a fillet round the front hair, with short curls over the forehead, is the fashion most affected, although the hair on the principal figure is worn in long tight braids. One lady has her back hair divided into three portions, the central portion being by far the largest, and these are confined within a triple or three-lobed caul, one division falling over the back and one behind each ear, an arrangement which appears to me a decided improvement on the single caul. Besides military and civil costume, these bas-reliefs furnish us with illustrations of furniture, so that we need not trouble to search much further for evidence wherewith to complete the *mise-en-scène* of this play of Coriolanus.

The text is singularly free from anachronisms, and the poet follows the story as told by PLUTARCH with an accuracy which neither fetters the poet nor detracts from the poetry, and which adds the charm of a strong and vivid reality to every person and every scene. The references to such things as coals, mailed hands, drums, steel pikes, pack-saddles, mummers, spectacles, gloves, handkerchiefs, groats, churchyards, &c., and the introduction of the names HOB and DICK,* are made in the slightest manner, and are entirely out-weighted by the references to customs and things of the date of the story. With regard to architecture and furniture we have reference

made to embroidered hangings, in VOLUNTIA'S first speech, to cushions and to stalls, bulks, windows, lead-flats, ridged roofs, and temples that could be burnt "in their cement." Little mention is made of costume and implements, but we hear of bats and clubs, of cobbled shoes, flags, doublets, leaden spoons, caps, pins, veils, scarfs, targets, or circular shields and buckled helms.

M. VIOLLET-LE-DUC ON FORTIFICATION.*

M. VIOLLET-LE-DUC'S "Annals of a Fortress" is an example of what a writer who is master of his subject can do in making a difficult branch of knowledge popular. Very few civilians would care to read an ordinary treatise on modern fortification, and if possible they would be more indifferent to the past history of the science. But here is a book dealing with the fortification of the past and of the future, and yet, partly through the excellence of the translation, is attractive enough to allure the attention of any English novel reader. The history begins with that very primitive time when the Valley of the Cousin, or the land of Ohat, was inhabited by a race who had not reached even the first stage of civilisation, as they had neither flocks nor herds. They subsisted on the products of the chase and fishing, and on wild roots, but such was their simplicity of manner, that they never fought but in the most modern manner—settled all disputes by arbitration. In course of time they were invaded by a race of fair-haired strangers who had chariots and horses, bows and arrows, and shields of wicker work covered with skins, but there was no blood drawn, and after a little parleying, "the strangers laughed, skipped, and leaned their bows on the breasts of the inhabitants of the valley in token of good will." Some of the original inhabitants did not trust these manifestations of friendship, and retreated to the woods, whence, not long after, they returned and fell on the new comers. As might be expected, they were defeated, but in order to secure the settlement against further surprises, the elders among the strangers decided to erect a camp surrounded by a rampart five feet high on the most secure site. Every able-bodied man, says M. Viollet-le-Duc, (he does not, however, refer to his authorities), was required to give one day's work in four for this purpose, the women prepared the food, and the children carried the earth in baskets or brought branches of trees. This was the origin of the fortress of La Roche-Pont. The rampart, we may say, is described as circumstantially as if it were a fence along a line of railway. It consisted of stones, gravel, earth, and branches of trees.

The new inhabitants were not disposed to follow the peaceful ways of their predecessors. Some of them entered on marauding expeditions, and, as often happens even in our days with those who follow the trade of war, the men who returned lost the habits of peaceful industry. In due course the encampment was attacked by other tribes, but as fortification as a science had made some progress the rampart was strengthened by a series of towers of timber placed one hundred paces apart, and after a siege of several days, which is described in the most animated style, the besiegers were defeated.

The second siege is supposed to have occurred during Cæsar's invasion of Gaul, when the town consisted of a series of inclosures of wood or dry stone walls surrounding gardens, in the middle of which were built the houses—wooden buildings, thatched with straw or reeds. The Roman general constructed an agger of trees and earth fifteen paces from the ramparts, with two galleries at right angles, along the top of which a wooden tower was rolled to the ramparts, and notwithstanding their bravery the tribes were conquered by the discipline and skill of the besiegers. Then the Romans settled in the place, and it grew into a fortified city. An interval of several centuries is supposed to elapse, as the fourth siege takes place in the beginning of the sixth century, in one of the contests between the Burgundians and the Franks. Although the city was defended by Clodoald, an inflexible Burgundian, who "used to punish every act of disobedience with his own hand, inflicting one unvarying penalty—death—and who confounded the Franks with the Germans in the implacable hatred which he had vowed to the latter," again the city falls: and in order that it might be incapable of sustaining another siege, what remained of the defensive works were destroyed.

Little then is heard of the place until the end of the twelfth century, when it was known as Saint Julian. On the site of the Roman *Castellum* was the castle of the lord of the town and district, Anseric de la Roche-Pont, and as it was at the time old and dilapidated, he determined to have it rebuilt so as to defy all attacks of the Duke of Burgundy, to whom he was supposed to be in subjection. The works were hardly complete when the Duke endeavoured to reduce his vassal, and the siege which followed is described by M. Viollet-le-Duc with a precision which gives an air of historic realism to the chapter.

In the fifth siege of La Roche-Pont, which is supposed to have commenced in September 1478, artillery was used for the first time, the army of King Louis XI. having no less than twelve large bombards, twenty-four

* There might have been an early *Galen* before the *Galen* of history A.D. 130-200.

* "Annals of a Fortress." By E. Viollet-le-Duc. Translated by Benjamin Bucknall, Architect. Sampson Low, Marston, Low & Searle.

spiroles, venglares, and ribeadequins, without reckoning fire-arms and munitions, and the besieged had fourteen bombards and twenty-eight culverins. The town was enclosed by a substantial wall 24 feet above the ground, with cylindrical towers 36 feet high, surrounded by machicolis and covered with conical roofs; but the attack was mainly directed against the castle, which, after a desperate resistance, succumbed. Errard de Bar-le-Duc, by orders of Henry IV., is described as having fortified the tower of La Roche-Pont, as well as the castle, and the place then sustained the attack of the Imperial troops, and this time successfully. The fortifications of the town would have little claim to have their history recorded unless the great Vauban was somehow connected with them, and accordingly he is supposed to have erected a large work outside the town, and to have improved some of the existing works of other engineers. But there was no opportunity to test the efficiency of his system until 1813, when the town was invested by General Werther. The abdication of the Emperor, however, occurred opportunely to prevent the final triumph of the enemy. This siege lasted for about two months, "but," says M. Viollet-le-Duc, "the town of La Roche-Pont could not now hold out for forty-eight hours before the German artillery."

The concluding chapter of M. Viollet-le-Duc's book is devoted to an exposition of his views as to what ought to be adopted now with a view to the future defence of his country. The illusion of the narrative is still preserved, for here we are supposed to be reading a memoir by a certain Captain Jean, an engineer officer, who was wounded under Bourbaki, and having returned to Lausanne devoted his leisure to the consideration of the best means of fortifying his native town, La Roche-Pont. According to him Vauban's fortresses have had their day, and the conditions of attack consequent upon the improvement of artillery, and the ease with which breaches are made at long ranges, require that the defence must be removed from the centre of attack in proportion to the length of the trajectory. If, he says, each front of Vauban's defence was about four hundred yards in length it ought to be from thirteen to fourteen thousand yards now. "This extension of the fields of defence may, according to the nature of the ground, be divided into two zones with a central nucleus. The interior zone would consist of permanent works, forming an *enceinte de préservation*; a line of forts at intervals, sufficiently strengthened, in case of war, by field works. The exterior zone would be fixed by occupying strategic points well chosen and considered beforehand, forming small camps protected by temporary works, and affording security to a numerous army, whose manœuvres the enemy could not espy." The expenditure to carry this out would be enormous, but it is shown that war is a game which becomes more and more costly as time runs on. He continues: "At the present day, as in times past, that which costs most is defeat. With forty millions well laid out in France before the war of 1870, and from forty to eighty millions spent in the war itself, we probably should not have had to pay the four hundred millions which the war cost us, and we should not have lost two provinces, which are certainly worth more than that sum. Parsimony in military preparations, in times of serious change, such as ours, is ruinous."

In one of the early chapters the author says that the Gauls have always been inclined to lend a willing ear to representations that flatter their desires, without inquiring whether they are true or false, and it would seem as if, to testify to the accuracy of this statement, towards the end of the book he had become his own dupe. For instance, he says that if Metz could have held out for six months the French need not have lost the town, and the war, notwithstanding the deficiencies in soldiers and artillery, might have taken another turn, thus showing his forgetfulness of the utter demoralisation that existed in every department connected with the defence of France during the last war, and from which, notwithstanding the praiseworthy efforts of late years, the country has hardly yet recovered. And, he adds, "The Germans asserted that by the possession of Alsace and a part of Lorraine we had a hold upon Germany. Now, their country is almost dovetailed into France. The future will show whether that will greatly benefit them." One can admire the patriotism which dictated the last sentence, but the desire which is expressed in it is not likely to cause much consternation in Berlin.

For the defence of a country, M. Viollet-le-Duc believes that the old system of fortifications will avail little for the future, and he would substitute for the salients of the old fortresses a series of isolated forts. These should, he says, "afford ample space for a large number of fires—even indirect fires—in case of need; consequently extended faces and short flankings, that is as shallow as possible and perfectly open gorges. They should efficiently protect the works of counter approach, and consider defence at close quarters as a question of only secondary importance; for very seldom would there be occasion for it, if indeed the case ever presented itself, which is doubtful." Taking his town of La Roche-Pont as a typical position, he would erect eight forts on the brows of the plateaus that surround the town, each armed with twenty guns of large calibre, and thirteen batteries or redoubts a little behind to command the rivers and to enfilade the roads, besides some subsidiary batteries. The force he assigns for defence is 27,300 men, which he thinks might cope with an investing

force of at least 100,000 men. The cost of the works is thus estimated:—

Each Fort would cost about 45,000.—the eight together	360,000
Each Battery or Redoubt would cost about 5,000.—the thirteen together	65,000
Total	425,000

The outlay for a system of national defence at that rate would be so costly that, for the sake of the French ratepayers, it is satisfactory to find that even the projector recommends the utmost circumspection in erecting fortifications of this kind—not, however, altogether on account of the expense, but because he thinks that permanent works can be studied by the enemy for a long time, and his operations planned at leisure.

Besides the permanent structures, M. Viollet-le-Duc attaches great importance to temporary fortifications, as by them the pre-arranged combinations of the enemy may be frustrated: he may be reduced to the defensive when he expected to attack, and may be embarrassed by an unforeseen resistance. But after all the most trustworthy fortress for a country, he says, is a good and well-commanded army, and a well-educated, brave, and intelligent population, resolved to make every sacrifice rather than undergo the humiliation of a foreign occupation, and before he concludes his history of the Fortress of La Roche-Pont, M. Viollet-le-Duc tries to make that population esteem war, if possible, more highly than they have done.

"War," he says, "makes nations, and war raises them again when they sink down under the influence of material interests. War is struggle, and we find struggle everywhere in nature; it secures greatness and duration to the best educated, the most capable, the noblest, the most worthy to survive. And in the present day, more than ever, success in war is the result of intelligence, and of that which develops intelligence—work. Whenever what is called fraternity between nations shall become a reality, the reign of senile barbarism and of shameful decay will not be far distant."

Who can say whether under present circumstances it bodes well or ill for a country when one of her foremost sons, whose name has hitherto been associated with works of peace, is found to be raising a war chant like this?

MR. RUSKIN ON THE ROYAL ACADEMY EXHIBITION.

AFTER the long interval of fifteen years, the "Notes on some of the Principal Pictures exhibited in the Rooms of the Royal Academy," by Mr. Ruskin, again reappear, and we are confident they will be received, as they deserve, with welcome. During that time the race of professional critics has increased vastly in numbers, but it cannot be gainsaid that among the mass of their criticism one searches in vain for that keen insight into the good and bad points of a picture which may be found in almost every page of the former "Notes." Whether we agree with the conclusions or not, it is a pleasure to be able to read once more some judgments which are based on principles instead of the mere expressions of satisfaction or disappointment which are drawn from momentary glances at pictures by those who may be utterly incompetent to draw or paint the simplest forms. Indeed, it seems to us that in no way could Mr. Ruskin do better service as a writer than by publications like the present. The majority of the readers of his later lectures are, we imagine, never likely to be able to test what he may say about the relation between Michael Angelo and Tintoret, or the difference between the Italian and German engravers—that is, by the comparison of examples—but since so many modern English paintings lead a kind of migratory existence, nearly everyone has, some time or other, an opportunity of seeing the principal works of each Academy exhibition, and are therefore likely to be served by any sound criticism which may refer to them. Mr. Ruskin says he has no intention of renewing the series, unless occasionally; but now that there has been a new start, we hope it may be long before there is another suspension of the "Notes."

Mr. Ruskin lays down the principle that all good art is more or less didactic, and he therefore divides the pictures in the Academy into provinces corresponding with their didactic functions, viz., Theology, History, Biography (including drama, domestic models and portraits), Natural History, Landscape, and—as the end of all—Policy, examining a few typical works in each class. As representing Theology he selects Mr. Watts' *Dedicated to all the Churches*, Mr. Poole's *Ezekiel's Vision*, Mr. Goodall's *Rachel and her Flock*, Mr. Armytage's *Julian the Apostate*, and the terra cotta reliefs by Mr. S. Tinworth. He says that Mr. Watts' picture is beautiful in no mean measure, but "the artist concedes to himself more and more the privilege, which none but the feeble should seek, of substituting the sublimity of mystery for that of the absolute majesty of form," and that Mr. Poole's runs parallel to it in "effacing the fearless realities of the elder creed among the confused speculations of our modern one." Mr. Goodall's picture, although it is not a fine example of the style, suggests the opportunity to Mr. Ruskin of again enunciating the essential principle of pre-Raphaelitism. It is, he says:—

"One of the pictures which, with such others as Holman Hunt's *Suspect*, Millais' *Dove Returning to the Ark*, etc., the public owe primarily to the

leading genius of Dante Rossetti, the founder, and for some years the vital force of the pre-Raphaelite school. He was the first assertor in painting, as I believe I was myself in art literature (Goldsmith and Moliere having given the first general statements of it) of the great distinctive principle of that school, that things should be painted as they probably did look and happen, and not as, by rules of art developed under Raphael, Correggio and Michael Angelo, they might be supposed gracefully, deliciously, or sublimely to have happened. The adoption of this principle by good and great men produces the grandest art possible in the world; the adoption of it by vile and foolish men, very vile and foolish art, yet not so entirely nugatory as imitations of Raphael or Correggio would be by persons of the same calibre; an intermediate and large class of pictures have been produced by painters of average powers, mostly of considerable value, but which fall again into two classes, according to the belief of the artists in the truth and understanding of the dignity of the subjects they endeavour to illustrate, or their opposite degree of incredulity and materialistic vulgarity of interpretation."

Mr. Armytage is said not to have completed his satire with subtlety, as Julian was not one to enjoy (as he is represented in the painting) vile disputes among men, especially among those whom he at one time believed were messengers of Christ. As to Mr. Tinworth's sculpture, it is said to be next to Mr. Boehm's "Carlyle"—the most earnest work in the Academy; any faults it may have being ascribed to the South Kensington system, "which has fattened its thousands of weak students into machine pattern-papers."

The examples selected for the province of History are M. Alma Tadema's *Scripture Gallery*, Mr. Poynter's *Festival*, Mr. Cockerell's *Ready!* and Mr. Long's *Babylonian Marriage Market*. The skill and learning of M. Alma Tadema are admitted, but he is said to have succeeded with all objects in the degree of their unimportance, the living personages being the worst painted, while the execution is dextrous with mechanical steadiness of practice rather than with innate fineness of nerve. Of Mr. Long's picture it is said that the "varieties of character in the heads are rendered with extreme subtlety, while, as a mere piece of painting, the work is remarkable, in the modern school, for its absence of affectation; there is no insolently indulged insolence, nor vulgarly asserted dexterity. The painting is good throughout, and unobtrusively powerful," but that "as a piece of anthropology it is the natural and very wonderful product of a century occupied in carnal and mechanical science." The painter, too, is said to have misread the story by introducing women of a high class, as the custom affected only those of the labouring population.

Under "Biography," and its subdivisions are comprised, *Domestic Troubles*, by J. Burr; *A Merrie Jest*, by H. S. Marks; *The Barber's Brood*, by J. B. Burgess; *Sophia Western*, by W. P. Frith; *Loot*, by A. C. Gore; *War Time*, by Beiton Riviere; *The Crown of Love*, by J. E. Millais; *Hearts of Oak*, by J. C. Hook; *A November Morning*, by H. T. Wells; *Sunday Afternoon*, by R. Collinson; *The Mayor of Newcastle*, by W. Oulless; *John Stuart Blackie*, by J. Archer; *The Countess of Pembroke*, by E. Clifford; *Miss M. Stuart Wortley*, by A. Stuart Wortley; *Thomas Carlyle*, by J. E. Boehm; and *School Revisited*, by G. D. Leslie. The last two, according to Mr. Ruskin, are, as far as his review reaches, "the only two works of essential value in the exhibition—that is to say, the only works of quietly capable art, representing what deserves representation." *The Crown of Love*, as compared with earlier works of the artist, is said to balance its excess of sentiment by defect of industry. About Mr. Hook's *Hearts of Oak*, he says:

"Beautiful, but incomplete; the painter wants more heart of oak himself. If he had let all his other canvasses alone, and finished this, the pears' work would have been a treasure for all the centuries; while now, it is only 'The Hook of the Season.' It looks right and harmonious in its subdued sunshine. But it isn't. Why should mussel shells cast a shadow, but boats and hats none? Why should toy carts and small stones have light and dark sides, and tall rocks none? I fancy all the pictures of this year must have been painted in the sunless east wind, and only a bit of sunshine put in here and there out of the painter's head, where he thought it would do nobody any harm."

Mr. Leslie is described as being "in the very crisis of his artist life. His earlier pictures were finer in colour, and colour is the soul of painting. If he could resolve to paint thoroughly, and give the colours of nature as they are, he might be a really great painter, and almost hold, to Bonifazio, the position that Reynolds held to Titian. But if he subdues his colour for the sake of black ribands, white dresses, or faintly idealised faces, he will become merely an academic leaf of the "Magazin des Modes."

"English girls," continues Mr. Ruskin, "by an English painter, whether you call them Madonnas, or Saints, or what not, it is the law of art life; your own people, as they live, are the only ones you can understand. Only living Venice, done by Venetian—living Greece by Greek—living Scotland, perhaps, which has much loved Germany, by living Germany which has much revered Scotland; such expansion of law may be granted; nay the strangeness of a foreign country, making an artist's sight of it shrewd and selective, may produce a sweet secondary form of beautiful art; your Spanish Lewis, your French Prout, your Italian Wilson, and their like—second rate nevertheless always. Not Lewis, but only Velasquez can paint a perfect Spaniard; not Wilson, nor Turner, but only Carpaccio, can paint an Italian landscape; and too fatally the effort is destructive to the painters beyond all resistance; and Lewis loses his animal power among the arabesques of Cairo; Turner his Yorkshire honesty at Rome; and Helman Hunt—painting the Light of the World in an English orchard—

paints the gas light of Bond Street in the Holy Land. English maids, I repeat, by an English painter; that is all that an English Academy can produce of the loveliest."

Besides such paintings as Mr. Couldery's *A Fascinating Tale*, and Mr. Carter's *The First Taste*, under the head of "Natural History," Mr. Ruskin includes Mr. Cooke's *Sunset at Dendarah*, Mr. Brett's *Spires and Steeples of the Channel Islands*, Mr. Millais' *The Fringe of the Moor*, and Mr. Leighton's *Eastern Slinger Sailing Birds*. With regard to the last Mr. Ruskin says that he feels "much compunction in depressing it into the Natural History class; and the more, because it partly forfeits its claim even to such position, by obscuring in twilight its really valuable delineation of the body, and disturbing our minds in the process of scientific investigation by sensational effects of afterglow, and lunar effulgence, which are disadvantages, not to the scientific observers only, but to less learned spectators."

The next division is Landscape, and according to Mr. Ruskin "the distinction between Natural Historic painting of Scenery and true Landscape, is that the one represents objects as a Government Surveyor does, for the sake of a good account of the things themselves, without emotion, or definite purpose of expression. Landscape painting shows the relation between nature and man; and, in fine work, a particular tone of thought in the painter's mind respecting what he represents." The paintings criticised are the *Hoppers on the Road*, by W. Linnell; *Summer Days for Me*, by A. W. Hunt; *Wise Saws*, by J. C. Hook; *The Horse Dealer Crossing the Moor*, by P. Graham; *The Quarries of Holmgaroud*, by T. S. Raven; *Richmond Hill*, by Vicat Cole; *The Head of a Highland Glen*, by F. C. Newcome; and the *Lugwy at Capel Curig*, by J. G. Curnock, all of which receive praise for various reasons, and Mr. Millais' deserted garden, in which it is said may be seen "what was once the bone and sinew of a great painter, ground and carded down into black pocked broom-twigs."

"Policy" is the last province, and but two pictures are found worthy of representing it. One is M. Philippoteau's *La Charge des Cuirassiers Français à Waterloo*, which, from its impartiality, is described as being more honourable to France than the taking of the Malakoff. The other is Miss Thompson's *Quatre Bras*, which Mr. Ruskin considers to be "the first fine pre-Raphaelite picture we have had, profoundly interesting, and showing all manner of illustrative and realistic faculty; but he asks the artist "to remember, in her day of triumph, how it came to pass that Atalanta was stayed, and Camilla slain."

KING ARTHUR.

ON Thursday evening Mr. John S. Phené, LL.D., F.S.A., so well known for his investigations of prehistoric archaeology, delivered a lecture at the Royal Historical Society, on this subject.

The lecturer began by describing the modern aspect of Knighthood from the founding of the Order of the Garter, and treating as mere accidents the event or events which originated the title of the Order, such as the well-known stories of the Countess of Salisbury, Richard I.'s Knights, &c., pointed out that it was the result of an outburst of feeling in the chivalry of the age, and had, indeed, except in name, been founded long before, and revived on several previous occasions, both before and after the Norman Conquest. Divesting the character of St. George of its fabulous aspect, he explained his probable position as that of the first militant Christian, "not the first Christian soldier, but the first soldier Christian; and standing alone for a time in that character, he would, of course, be represented as encountering, single-handed, the dragon of superstition, the visible idol deity of the Pagans, with which Satan had fascinated the eyes of men." If this were so, his being revered by the East and West alike would be easily accounted for. The position he thus took being received with favour, would rapidly cause an immense numerical, and very wealthy and influential accession to the Christian body, and would tend greatly to the consolidation and general confirmation of the new faith. This event having been accomplished, the military or chivalric element began gradually to separate itself from the ecclesiastical; and, finally, took its stand on the side of the civil power, an attitude it had retained to the present time, being the great bulwark of, and at the same time noble bond between, the Crown and the people. He showed how St. George was known and esteemed even by the Pagan Anglo-Saxons, while Arthur was the name under which the Celtic forces ranged themselves. While giving full recognition to both these names as undoubtedly historical, he pointed out the mystic fables that had accumulated round each, but argued that these were not altogether ideal fabrications. The intimate connection with the Dragon in each case, the militant Christianity of each, the not very remote chronological distance between their respective eras were remarkable; but there was a difficult point in the history of Arthur that stood alone; this was his apparent ubiquity. He was at one and the same time, or nearly so, fighting, or was claimed to have fought, twelve great battles in the north, twelve in the south, and to have been accomplishing the same heroic deeds far down in the realm of France. Wherever he fought there were monuments of the event in circular earthworks or other well-known emblems popularly called even now, "Arthur's Round Tables;" and these were also always recognised as places of abode or worship of the early Celtic people. He considered that although so called they were identified with Arthur and the round table of his knights simply as the places of his and their military successes, in what he considered an interecine religious Celtic strife, partly during and partly subsequent to Roman occupation. That the embracers of the new religion becoming repugnant to the holders of the former faith, took the sword in self-defence, and

having taken it, became militant Christians, and waged war against the Pagan idolatry, that these warriors ranged themselves under a character of great oriental antiquity, and that probably the first that took the sword, and for his distinction, the high code of morals, which agreed alike with the new faith and with that of this remote oriental personage, was a king actually named Arthur, though it was a name by no means dissimilar from the original person of whom he was about to speak. A careful analysis of the emblems of the various sections of the Celts in Britain was then gone into, and a large collection of the Royal Seals of Scotland and England exhibited, the most remarkable of these being enlarged on various diagrams. The result was curious; in every variation of influence of the Pictish or more early Celtic race as against the Teutonic or English-Saxon influence, the Gaelic or Scotch power being geographically as well as politically between the two, exhibited an exactly similar variation in the emblems or symbolical devices on the great seals, inscribed charters, &c. The Pictish element being shown by the dragon, which was alternately elevated into an honourable position, or degraded beneath the feet of the sovereign on the seals, and shown with similar political significance, on other symbols, which had evidently been very carefully collected at great labour and expense.

The connection of Arthur with the dragon became at once a matter of easy explanation, and the mysticism of St. George and King Arthur were easily removed, while the features of each were almost untouched.

The original Celtic device or banner was shown to have been a dragon not borrowed from the Roman draconarius, of which examples were exhibited closely agreeing, however, with the outline of the old flag of Scotland, as shown on the Royal seals, a device used by the Romans in common with the eagle, and adopted by them from various nations they conquered, who used this device, and which therefore was apparently an original, and not a borrowed device of the Celts.

A raid was then made into past ages in search for the origin of knightly customs, which were found throughout to be connected with the highest code of morals and honour, the lecturer proposing to pursue his subject strictly on the highway of chivalry, and to use no secondary or accidental circumstances to aid his argument. In taking this course he "hoped to open some of those old and original thoroughfares of thought long obstructed by the debris of partially-viewed historical events." The encounters between Roman knights, and between Roman, Latin, and Gaulish knights, were found to be so very similar to the more modern tournaments, though almost always fatal, that the precedent seemed to have been handed down through the Gauls from an enormous distance of time. The combat was with the same weapon, the lance, as found in Etrurian art representations, which agree exactly with written descriptions. The ancient British horsemanship was baffling even to the Romans, and the British chiefs no doubt indulged in this species of equine duelling. The grand features of honour and morals pervaded knighthood in every phase and age, and were not diminished even in the earliest Aryan source, which seemed to have originated it, but were as dazzling in the great war of Bhārat, described in the Mahā-Bhārata as on the plains of Illium, in Roman warfare, or at the date of the Norman Conquest, or the institution of the Garter. The great George of the Garter, and various valuable jewelled devices, and genuine badges of knightly orders, were used in illustration of the subject. The objects were from the valuable collections of Mr. Beresford Hope, the India Museum, of the Lecturer, and several other choice collections, including some from Dr. Leitner's Indian sculptures, which supply many interesting links between classic European and Indian religious art. The seals and Scottish emblems were furnished to the author by Mr. H. Laing, the well-known heraldic author and artist, of Edinburgh.

Remarkable emblems still existing in Britain and France were then shown on diagrams, almost all of them of an unmistakable serpent form. The places where they occurred and, indeed, in some cases abounded, were all Arthurian—Armorica, Southern or Central Scotland, the South-West of England, and Wales. Glastonbury and its vicinity were shown to be rich in most remarkable monuments of this description. A great serpentine form on the Glastonbury Tor, as seen and only seen from the direction that King Arthur must have taken on his approach to Avalon over the then shallow sea or lake, now an embanked marsh, was a most impressive object; while the line of an ancient British road from old Sarum to Weston-super-Mare, running along the Mendip Hills in full sight of the great Tor, abounded in sepulchral monuments, all, without exception, of a serpentine form, the still extant remains of the tombs of the great, which lined the grand western route from London, in ancient British and Roman times, as the tombs on the Appian way from Rome still do. Carnac, with its vast serpentine stone avenue, was then referred to, and in each case the Island of Avalon (Isle of Apples) both at Glastonbury and Armorica; that in France called "Aiguillon;" being in each case the reputed place of Arthur's burial. The Tor at Glastonbury is dedicated to St. Michael, so each also had its Mount St. Michael. The latter features had been supposed to be wanting in Scotland, but on examination this was not found to be so, for close by the locality occupied, as Mr. Skene and others have shown by the Cymry, was an isle celebrated for its apples, guarded traditionally by a vast serpent, and in close proximity was also a vast serpentine embankment of a sepulchral nature. The history of each was the same in character, and it would appear that this serpentine tomb was the monument of the hero who slew the dragon of the isle of apples or berries in Loch Awe, showing a minute resemblance between all the Arthurian localities and symbols in North and South Britain and in Northern France.

The view taken of the round tables of Arthur's time was novel, and embraced some notable historical features. The lecturer considered that there were evidences to warrant his concluding that the term Arthur was one under which various chieftains and petty knights embarked in the new Christian chivalry, which convert kings were obliged to assume in defence of their new faith. That probably the first in order, or the chief of these kings bore that name—if, indeed, it were not borrowed from a more ancient source—that it was used to indicate an order, and to avoid invoking the more sacred name—that the "round tables" were of two kinds, the first consisting of chiefs and kings, which seldom met, and then only to

arrange uniformity of action, the second consisting of a king or chief, with his knights and followers. From the nature of the case these would be secret societies, but their existence cropped up in various ways. The first seems to have been traditionally handed down even to the time of the institution of the Garter, and appears prominently, in the order of Royal Electors, and in the "Golden Bull" of Germany, and, in more modern times, in the alliance of crowned heads in Europe. The second appears in several ways, and was necessarily more frequent. It appeared in times of emergency in the reigns of Ina (king of the West Saxons), Offa (king of the Mercians), Ethelbert, Alfred, and others, becoming permanent in the palatinates of Chester, Durham, and Lancaster, and both institutions were subsequently found in our two Houses of Parliament.

It was remarkable that every one of the great features in Arthur's character and history was to be found in the ancient poems of India; the Rāmāyana, the Mahā-Bhārata, and the Rigvedas giving the whole history; the militant religious element of a purer religion extirpating a false one was identical in each case, even to its very emblems, of the sun and serpent.

The course of Arthur in his twelve battles in the south was from east to west, in those in the north from west to east. The twelve adventures with the white horse, a prominent emblem with the Britons also, and which represents the sun in the Indian poems, are the same in number as Arthur's twelve battles—it is the sun in either case. In either case the hero fights with a near relative—his son in India, his nephew here; in each case he is mortally wounded, and miraculous aid is applied for in the land of the serpents. Arjuna, the Arthur of the east, performs precisely the same exploits as Arthur. His course first south, like Arthur's to Armorica, is the same; his return, his progress northwards, his successes in the north, his descending into the sea or lake of darkness, and his resplendent rising from it, are all the same. His companions are the same—Shesha-Nāga, the thousand-headed serpent of the east, being the Pēndragon of the west, and his necromantic agent, Vyāsa in the east, holding the same position as Merlin in the west. But the grandest features, which we cannot now give in detail, are most interesting, the whole portrays the condition of purity before the fall of man, the influence of the serpent, the promise of a restoration, and a resplendent rising from the dark waters of death, in the sublime imagery of the east.

The Lecturer pointed out that the remote age to which the ancient Indian poems (such poems being compilations of much more ancient oral history) took us back, was not only an age of knighthood and chivalry and free from barbarism, but "of a prosperity we vainly strive after, a civilization we shall never attain. Where the very artisans—for there was no listless idleness—were clad in pure garments, and decorated with ornaments of pure gold and jewels. Where every man was true to his neighbour, and every spouse faithful and honest." And although art was at a high stage, yet religion was divested alike of the artistic; or of the idolatrous; taking us back to a traditional age of purity apparently before man became corrupt, and in which were found embodied some of the greater promises of the Hebrew faith as internationally known and acknowledged. The scenes and events in the Indian poems conveyed incidents so like those in the history of King Arthur that they were all capable of being described in unaltered quotations from our Poet Laureate, which were most appropriately given.

FREDERICK WALKER, A.R.A.

TO-DAY, wrote the *Times* on Tuesday last, will be laid in the secluded churchyard of Cookham, by the side of his mother and one of his brothers, Frederick Walker, A.R.A., a young painter of rare genius, cut off prematurely in the springtide of his powers. At little more than 30 Walker had already made his power felt in three fields of Art—as a designer on wood and as a painter in water-colours and in oil—in a way possible only to genius. His later achievements as a painter have gone far to override the recollection of his earlier work as a designer on wood; but in this character he had the same wide and well-marked influence upon his contemporaries and successors as he has already had on the younger generation of our water-colour painters, and as he promised, and had indeed already begun, to exert upon the oil painters of his time.

Born of a family in whom designing power seemed hereditary, Walker's earliest labours were as a designer for the wood engravers. He needed but a short technical training to discover for himself the laws of effect in this special branch of the artist's craft, which, resting on the sure foundation of an appreciation of light and shade at once most strong and subtle, was combined in him with an unfailing grace, an exquisitely delicate feeling of the mutual relations of human form and expression, and of both of these to colour, and the imaginative feeling which guides the combination of figures and their background—be it landscape, interior, or architecture and scenery combined—so as to make all the elements of a composition work to one and the same effect. From the first, Walker showed this rare combination in his designs for wood engraving, of which some of the most widely-known and best remembered are the designs for Thackeray's stories in the *Cornhill*. As a designer on wood he very soon took a place of his own by the exquisite felicity and tender grace of his invention, combined, as such grace and tenderness are very seldom combined, with brilliancy of effect, light and shadow. From a very early period he became the leader of a school, and an object of imitation among young men of kindred feeling but inferior powers.

The rapidity of his rise to reputation in water-colour was even more remarkable, because quickness of perception and apprehension and intensity of appreciation were accompanied in him with a fastidiousness, sensitiveness, and liability to discouragement which made him easily dissatisfied with his own work—ever ready to put aside a half-finished drawing in despair and begin on the subject afresh. But if the result of this was unfavourable to rapidity and quantity of work, it contributed to that perfection of quality which was its distinctive stamp. After his election to the Old Water Colour Society he rapidly rose to the highest position in its distinguished ranks. His drawings were always the most eagerly sought

for by the most critical judges. No matter how apparently trivial might be the subject—the humble street of Cookham, in whose churchyard he is to be buried, with its low red brick cottages, and a flock of geese driven along; a Thames village, bridge, and landing-place, with its wherries and punts, its evening loungers and homeward-bound oarsmen, its sailing swans, with the evening light upon their plumage; a child and its mother in a Spring orchard, among white blossoms and frisking lambs; a fishmonger's shop with its wealth of colour; a quiet room, with girls contemplating a rainbow—everything became sweet and tender, pure and beautiful, under his hands.

At what cost of anxious and often depressing and distressing labour, through what perilous passages of distrust and discontent with himself and his work, this sweet serenity and balanced finish were attained was known only to his intimates. But all this nervousness and susceptibility of temperament, engendered or aggravated by the constitutional tendency to phthisis, to which he at last succumbed, rather served to endear him to his friends, accompanied as they were with a ready radiance of enjoyment and kindly humour always prompt to overflow. From the first he made a school in water-colour, as he had done in wood designing. The stamp of Frederick Walker's influence is on all the rising water-colour art of our time. After achieving success equally marked and rapid in water-colour, he passed to the higher degree, as it is usually considered, of a painter in oil. Here, too, he made his mark with the same promptness and power. About his first exhibited oil picture, contributed, if we remember aright, to Mr. Wallis's Gallery, was of a blind old French vagrant led by a boy along a plashy road, through rain. The execution was peculiar, and not pleasant under close examination; but the picture, besides its power of expression, was full of original effect when viewed from the proper distance. Something of the same peculiarity of handling hung about his work in oil to the last, and is visible in his picture in the present Exhibition, *Right of Way*. But technical merits in works of genius are inseparable from merits of expression or story-telling, and there is no possibility of separating them in Walker's pictures. The stamp of his true, deep, and subtle imagination was upon all he exhibited at the Royal Academy as unmistakable as on his drawings. Who, with an imagination capable of being stirred by painting, can have forgotten his poor woman struggling through the snow; the pathetic symbolising of a life in his tramp-family coaxing the damp sticks into a blaze on a wet evening at the end of a dreary day's march; his scared and hunted female felon in the dock; or, in blessed contrast with that agony, the calm, evening sunlight gilding the close of uneventful lives in *The Haven of Rest*?

Our English school, not too rich in genius, has lost in George Mason recently, and in Frederick Walker now, two of the most exquisite and distinctly marked geniuses of our time—men whose work had this unalloyed characteristic of genius, that it reflected the view of people and things especially belonging to the imagination of their time; whose invention, never aspiring to epic heights, whose air they were not framed to breathe, moved happily and harmoniously in rustic and domestic life and its surroundings, and whose days, all too prematurely cut short, have yet been long enough to leave their names cut large and deep on the tablet of English artists.

But Frederick Walker was the more widely accomplished artist of the two, and his achievements covered a wider field, though his life was shorter. We have put their names together in this notice of the latest lost because they were friends in life, as they were akin in the finest and most distinctive qualities of their genius. It will be long before the gap they have left in the English school will be worthily supplied.

THE EXAMINATIONS OF THE SCIENCE AND ART DEPARTMENT.

IT is to be hoped that some one in authority will happen to light upon the evidence which was given lately before the Civil Service Inquiry Commissioners by some of the Inspectors of the Science and Art Department. The object of the inquiry was to consider the position and the salaries of those who hold appointments in various public offices with a view to a reorganisation of the Civil Service, but in the course of the examination various other matters had to be introduced. From the evidence which follows it will be seen that, according to the frank confession of the Inspectors, the system of supervision, which is practised under the Department, can very often be no more than a sham. The first witness we shall quote is Mr. R. G. Wyld who gives the following evidence:—

How long have you been connected with the Department of Science and Art?—Since the year 1852, for the first three years as a clerk; in 1856 I was appointed art inspector.

Had you any qualifications for the duty of art inspector?—I took a third grade art certificate, which is the same certificate as that which is required to be held by a master of a school of art.

For some time were your inspections exclusively devoted to art schools?—They were entirely devoted to art schools.

For how long?—Until the year 1868.

In the year 1868 what change ensued?—The inspectors were made common to the two divisions of science and art.

And you had then to examine science and art schools indiscriminately?—Yes.

May I ask whether you feel yourself qualified to examine a science school?—I do not.

You feel that you have a qualification for examining in art, but that you have not the necessary qualification for examining in science?—Exactly so.

Are your functions in examining a school administrative, or is much technical knowledge required for the performance of the duties?—A great deal of technical knowledge is required. In the report which we have to fill in one of the questions is, "In the science classes do the pupils show signs of having been crammed or of having learned by heart?" And another question is, "Is the apparatus sufficient in quantity and quality to properly illustrate the teaching?"

Supposing that you went to a science school and saw a piece of apparatus for showing the deposition of ammonia by one of the questions which is involved under the Scotch code, would you be able to say whether that piece of apparatus was effective or not?—I should neither know nor understand the use of the apparatus.

Then you do not feel that as regards technical knowledge you are equally fitted to inspect a science school as you are to inspect an art school?—I do not at all. When we inspect a class we have to meet the committee, and I have been frequently asked by members of the committee, particularly in Scotland, to examine the students in their presence *vis à vis*. I have done so to the best of my ability, but I have never felt safe in my position.

When you fill up the question which you have read, namely, "Do you think that the pupils are crammed?" how do you know what you should say?—I have filled it up as best I could.

In this case we have a gentleman knowing a little about art sent to examine "science classes." The following testimony shows that the balance is made even by scientific officials being sent (and against their wills) to examine in "art." Mr. J. F. Iselin, M.A., is asked:—

When were you appointed inspector?—In 1861.

Have you a university degree?—Yes; I am a graduate in honours of Cambridge.

What honours; mathematics?—Yes; first-class mathematical honours.

Then I need not ask you whether you feel that you have the necessary qualifications for examining a science school?—I think that I have.

Have you the necessary qualifications for examining an art school?—No, not a school of art; certainly not.

Have you taken any art certificate?—No.

Up to recently have you been chiefly employed in schools of science?—Up to the year 1868 I was entirely so employed.

But recently have you had also to inspect schools of art?—Yes; since the year 1868 when the inspectors were made common to both divisions.

Have you felt that your want of qualification as an inspector in art has stood considerably in the way of your efficiency as an inspector?—Certainly, as an inspector of schools of art, I have always felt that I should have been glad to be able to assist the masters with advice as to the studies pursued in the schools, as I am in the habit of doing with the masters of science schools.

Mr. Arthur Lennox, it will be seen, gives similar evidence:—

You have obtained qualifications for your duties as an inspector of science schools?—Yes, and of science only. I do not feel myself qualified to examine in art at all.

So far as your inspections have gone hitherto, have you found your want of qualification in art to stand in your way?—Yes, most decidedly so.

Have you found that you have been required occasionally to examine the pupils?—Yes, and I cannot do it. When I joined the Department I told Mr. Redgrave, the Inspector-General for Art, that I was not qualified in art, and that I thought that the two offices being made one was a mistake.

Is there any other remark which you wish to make to us with respect to your duties?—I think it exceedingly desirable that the offices of inspector of science and inspector of art should be separated, because I feel that I am incapable of criticising papers in art; whereas in science I can examine students in nine subjects. Many of the so-called "sciences" in the Directory are entirely technical subjects, and not pure sciences, such, for example, as naval architecture.

But still even there your knowledge of science would prevent you from showing entire incompetence?—I flatter myself that it would do so in those subjects which I pretend to know.

But I mean even in those subjects which you do not pretend to know but which are scientific?—No doubt it would.

But in art you might feel yourself entirely incompetent?—Yes, I might do so. I do not pretend to have more knowledge of art than a person of ordinary education and not wholly devoid of taste.

Does your field cover the whole of science?—It is a very vast one; there are twenty-three subjects found in the Science Directory.

What is to happen to a school when you go to examine classes in the fourteen subjects with which you do not profess to be acquainted?—I can only answer for myself: I hold my tongue on those occasions. The other night at Devonport the teacher of a class of naval architecture said to me, "Will you examine the pupils, sir, in the class?" and I said, "No, I will not examine them to-night."

We suppose it was not within their province for the Inquiry Commissioners to notice evidence like the above, as we find no allusion to it in their report; but when it is considered how extensive is the system of training or pseudo-training which is being conducted in so absurd a fashion, and how much the system costs the country we think it must be admitted that reorganisation is required in more ways than one in the Science and Art Department.

THE HASTINGS TOWN HALL COMPETITION.

AT the monthly meeting of the Hastings Town Council on the 4th inst. the following recommendation of the Committee was read and approved:—"The Committee recommend the Council as follows:—1st, That the premium of 100*l.* offered by the Council for the most approved design be awarded to the author of the design marked with the motto 'Palmarum Perseverando,' subject to his having fulfilled in every respect the conditions mentioned in instructions to architects, and giving, if required, satisfactory proof that the design can be executed for the sum mentioned therein. 2nd, That the premium of 50*l.* offered by the Council be awarded to the author of the design marked with the motto 'Con Amore,' subject in all respects as aforesaid. 3rd, That the premium of 25*l.* offered by the Council be awarded to the author of the design marked with the motto 'St. Michael,' subject in all respects as aforesaid."

ILLUSTRATIONS.

DESIGN FOR THE CITY LIBERAL CLUB.

THE accompanying drawings have been reduced from those submitted under the motto *E Pluribus Unum* in the recent limited competition for the City Liberal Club by Mr. T. CHATFIELD CLARKE, F.R.I.B.A. The promoters of the club having anticipated that at some future time it would be necessary to enlarge the club, the problem to be solved was therefore to prepare a design which, while complete at first to suit the more limited area, might yet be capable of extension without expense in alterations, or in the least degree injuring the completeness of the whole when executed.

From the present limited ground-floor area it was supposed in the arrangement of the present design that the whole of the good available area in the front portion must be given up to luncheon and dining purposes for the members, if the club were to be as serviceable for so large a number of members as may probably assemble at or about mid-day.

The site is unusually surrounded by ancient lights, governing the heights of the back and front elevations and the outbuildings and offices, but care was taken not to trench on the angles respectively preserved to the various dominant lights. In the design itself the largest amount of lighting power has been obtained, and the style of the building, while strictly within the prescribed conditions of "Classic character," in no case "retards the light of the building."

In the elevation it was kept in view that the portion executed at first should not look unfinished, and it will be seen that the proportions and division of the frontage could be satisfactory without the future addition. The additional stories on a back line would not enter into the general effect of the building, or would not prejudicially affect it.

Heavy projections externally and coffering internally in the ceilings were avoided, both on the score of lightness and economy in the construction, the style admitting of panelling and surface or Arabesque decoration to any extent.

The various floors of the building contained all the requirements of a modern club on a large scale, having reading and newspaper rooms, smoking and billiard rooms, private dining rooms, washing and dressing rooms, baths, lavatories, &c.

It was proposed to have a sub-basement of wine or other vaults, an upper basement, containing an extensive series of rooms for the service of the establishment, and over the first and second floors, which were to be devoted to the use of members, complete kitchens and offices, the fourth floor to be appropriated to servants' bed-rooms.

The design comprised a complete series of service rooms, central to the building, with access from the back staircase, and by introducing Mezzanine rooms, gaining a dispense cellar and a bread store, in addition to those shown on the various plans. Complete sets of lifts, both for dining, wine and coffee service, and kitchen departments were provided, and dust shoots and coal bunkers to each story.

The building, wherever possible, was designed with open fire-places, in which the most approved register stoves would be supplied; but as it is manifest such would not be sufficient to heat the main dining-rooms and staircases with the corridors, it was intended to provide a heating apparatus on the system of supplying fresh air through a powerful gill air warmer, and diffusing the same into the rooms by gratings under the windows, and to a bronzed pedestal, fresh air being derived by a channel from the area previous to warming. A ventilation shaft was also to be supplied right through the building vertically, merely shifted in position in the proposed future extension, and with extracting mouths from the principal rooms on each floor. The means of extraction would be as follows:—To supply iron flues from the heating apparatus and the boiler, carrying them up the ventilating shaft, and by such means rarifying the air in the same and drawing out the foul air from each room, the whole being surmounted by a fan. The boiler for the pumping engine in the upper basement would be necessary, beyond its returning the water for the use of the hydraulic lifts, as a means also of heating the hot plates in the serving rooms and to supply hot water to the baths, and in returning the water to supply the lift power it could be utilised to work the fan. The kitchen would have a separate boiler placed in the scullery to supply the whole of the heating power necessary for the various cooking requirements, steam closets, tables, &c. All the water-pipes, &c., could be taken up this ventilating shaft, so as to avoid any chance of freezing in the winter; and it was proposed to put hydrants in the corners of the serving rooms and landing and staircase.

The ventilation of the closets and lavatories was specially studied, so as to get each to the external air, and all the soil pipes would be ventilated to the external air.

The estimated cost of the building, as proposed to be erected at first, was 30,000*l.*, and with a further outlay of 14,000*l.* to complete the same in future.

EDWARD WELBY PUGIN.

WE regret to have to announce the death of Mr. Edward Welby Pugin. He died on last Saturday night at his residence in Victoria Street, Westminster, after an illness of about three weeks, and before he had reached his forty-second year. By his father's death he came into the possession of a most extensive practice at an age when other youths are but commencing to learn the rudiments of architecture. He thus possessed power before he was competent to use it, and in considering his life allowance should be made for this. Had he confined himself to the proper duties of an architect there is little doubt that his days would have been happier, but he was induced to become a builder, a manufacturer of furniture and decorative work, and to embark in various other enterprises, until he had in his hands a business so extensive that no ordinary brain could control it. Latterly his impetuous temperament led him into several lawsuits, to which we do not care to allude, further than to say that his repeated defeats preyed heavily on him, and in his last hours he desired that the inscription on his tombstone might be:—"Here lies a man of many miseries." Considering the age at which his career ended, the number of buildings of which he was the architect is almost incredible. We append a list of them:—

CATHEDRALS AND CHURCHES.

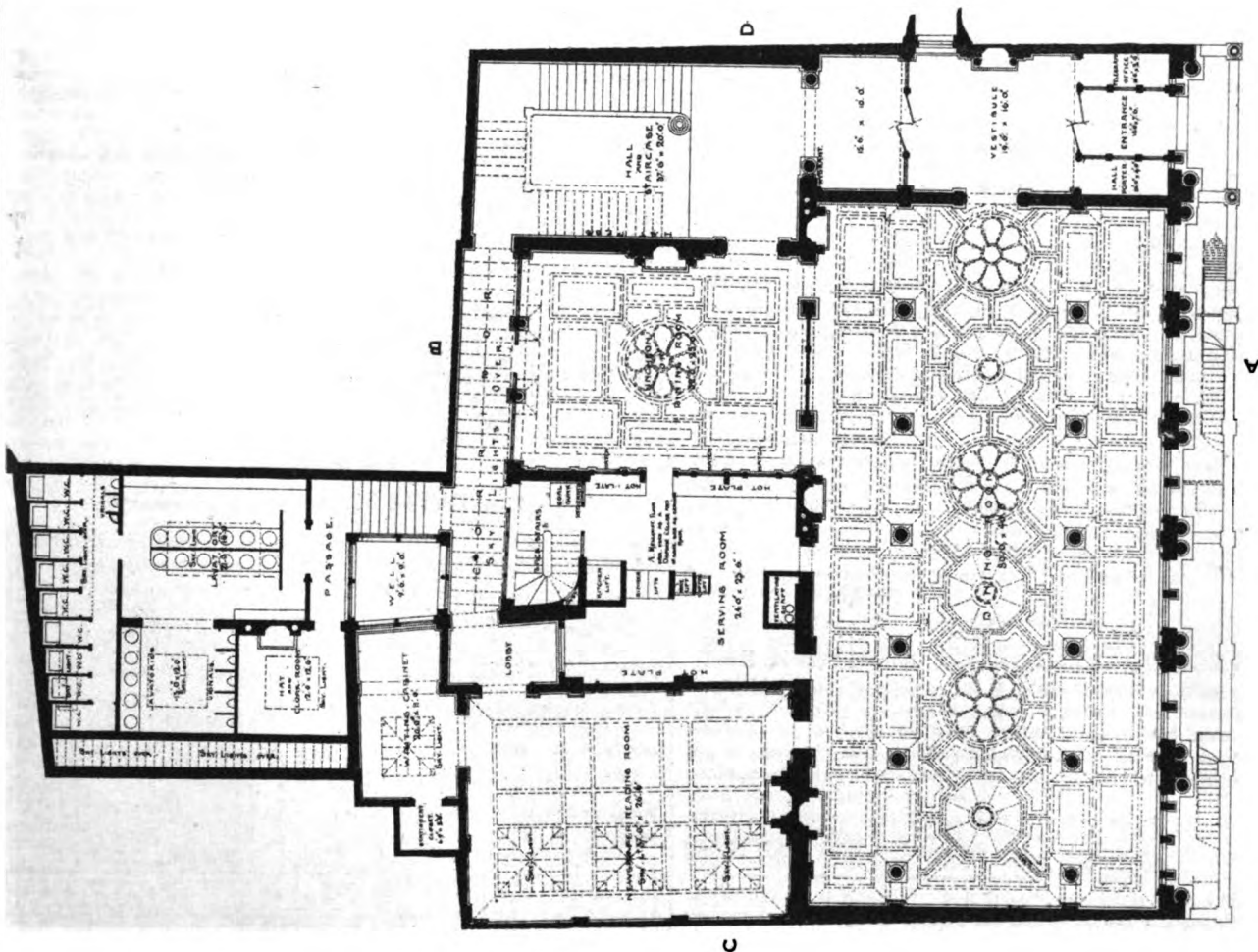
Peckham Church, Kingsland, Whitehaven, Workington, Hastings, Northampton, St. Vincent of Paul, Barrow-in-Furness, Great Harwood, Dadizele (Belgium), Tower Hill (London), Croydon, Augustinian (Dublin), Barton, Mont St. Marie's (Leeds), Fleetwood-on-Wire, Kensington, Ratcliffe, Crosshaven, Rotherwas, Monkstown, Oldham, Glenginnan, Dover, Holy Cross (Liverpool), Much Wootton, Westby (Liverpool), Margate (additions), Rugby, St. Marie's (Newcastle), Cathedral Northampton, Burton-le-Coggles (near Grantham), Queens-town Cathedral, Guernsey (additions), Stanbrook (Worcester), Preston, Eldon Street (Liverpool), Tasmania, Warwick, Barking, Ashford, Wrexham, Blackpool, St. Edward's (Liverpool), Derby, Stourbridge, Batley, Shrewsbury, St. Marie's (Euxton), Cleator, St. Godrich's (Durham), Haddington, Birkdale, Dewsbury, Kingsdown, St. Peter and Paul's (Cork), Bootle Church and Schools, Nichell's Green Church and Schools (Birmingham), Rockferry Church and Schools, Birkenhead Church and Presbytery, Greengate Church and Presbytery, Cuba Church (West Indies), Gorton Church and Monastery, Sheerness Church and Presbytery, Huyton Church and Presbytery, Mayfield Restoration, Leith Monastery, St. Joseph's Retreat (Highgate), St. Marie's Monastery (Kilburn), Tralee Convent, Glaswegian Convent, Ravenshurst Convent, Culton Convent, Nenagh Convent (Ireland), Handsworth Convent, Waterford Convent, Good Shepherd Convent (Liverpool), St. Gregory's College (Ramsgate), Oscott Chantry, Ushaw New Chapel and College, Danesfield Chapel, Aston Lady Chapel, Stafford Church and School, Belmont St. Michael's Church and Monastery, The Knill Chantry, St. Augustin's Monastery (Ramsgate), Mount Vernon Convent and Schools (Liverpool), Sedgely Park Schools (Birmingham), Hoxton Square Church and Schools, Bradford Schools and Presbytery, Challoner's Schools (Liverpool), St. Alban's Schools (Liverpool), Birchley Billings' Schools, Salisbury Schools, Wootton Schools, Mount Carmel Schools (Liverpool), Newton Schools, Hammersmith Training College, Nottingham Training Schools, Maidstone School, Stretford Church (Presbytery and schools), Tranmore Schools, Warrington Schools, Woolwich Schools, Sandhurst's Schools, Turnham Green School, Egremont, Frisington, and Cleator Moor Schools, Shofield Chantry, Hanwell Chapel, Bletchley Orphanage, Hellingesley Orphanage, Hanley Presbytery, Harwich Chapel, Edinburgh Church, the Ford Cemetery (Liverpool), St. Helen's Cemetery, Blacknock Church, Donnybrook Church, &c.

SECULAR BUILDINGS, &c.

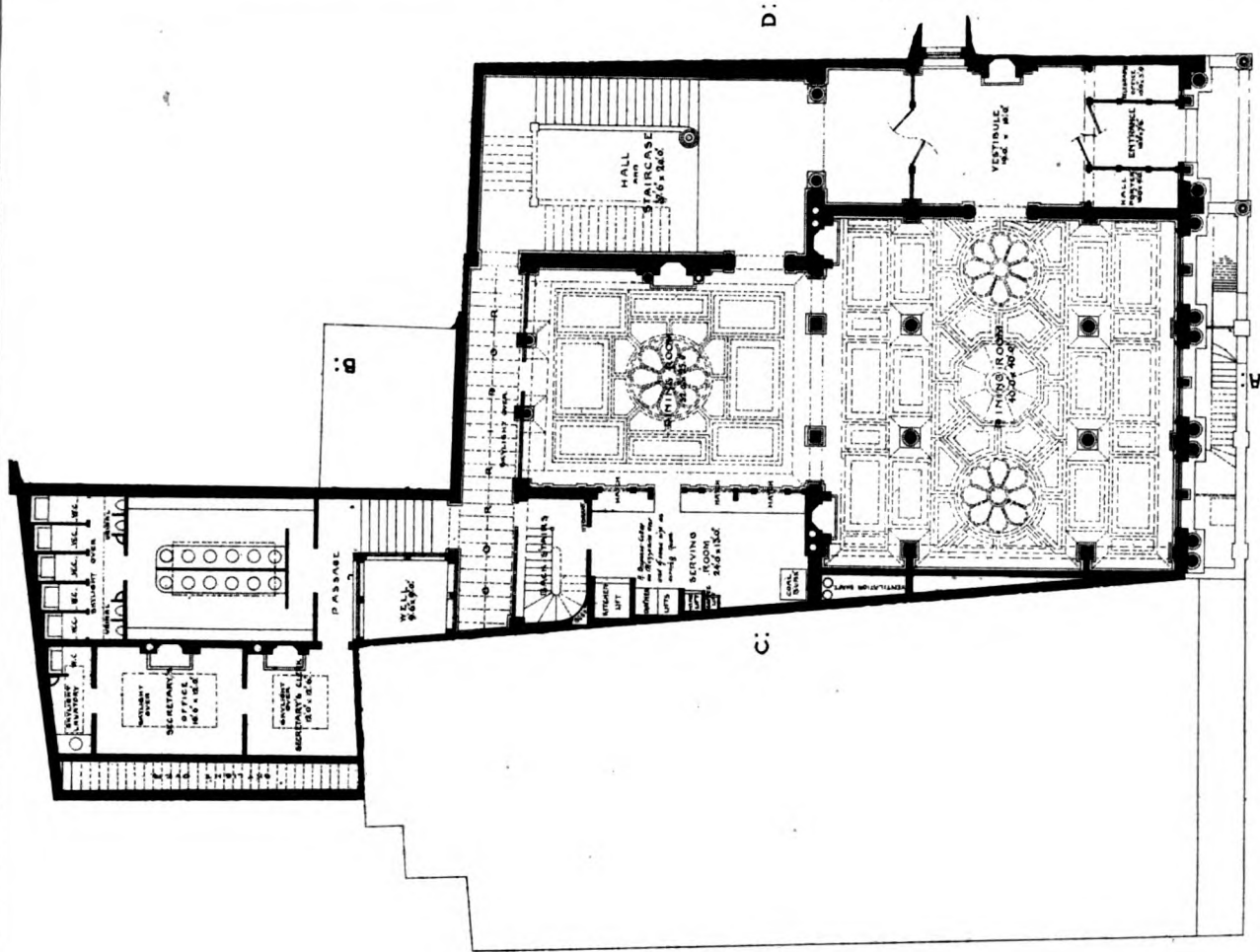
Chirk Castle, Tofts, Harrington House (Leamington), Château à Saint Michel (Belgium), Burton Manor, Croston Hall, Scarisbrick Hall, Meanwood (near Leeds), the Chimes (Kilburn), Carlton Towers, Seel's Buildings (Liverpool), Burton Manor, Clapton Almshouses, the Granville Hotel (Ramsgate), Grafton Farmhouse, Monument erected at Nice in memory of the late Mrs. Lamb, Oswald Croft House, Gavendon Hall (Leicester, additions), St. Marie's (Newcastle), &c.

THE STATISTICS OF GLASGOW.

MR. WEST WATSON, the Chamberlain of Glasgow, has published a report on the vital, social, and economic statistics of the city. According to this document the number of dwelling-houses within the Parliamentary burgh is 107,520, with a rental of 1,165,051*l.*, of which 4,097, with a rental of 41,086*l.*, are classed as unoccupied. In 1873-74 the number of houses was 104,504, the number unoccupied being 2,602. The number of unoccupied houses at present is greater than it has been in any year since 1864. The gross rental of the city for 1874-75 is 2,720,688*l.*, as compared with 1,808,430*l.* in 1865-66. The average daily water supply of the city and its immediate neighbourhood, together with the village of Barrhead and the burghs of Rutherglen and Renfrew, was, during 1874, from the Loch Katrine works, 29,000,000 gallons; from the Gorbals works, 4,000,000 gallons—in all, 33,000,000 gallons. While the population of the Parliamentary burgh of Glasgow at Midsummer, 1874, is estimated at 508,000, that of the city and its closely contiguous suburbs is believed to have reached 636,515. The municipal constituency for 1874-75 is 58,594, and the Parliamentary constituency 58,727. Assuming the population of the Parliamentary burgh of Glasgow at Midsummer, 1874, to have been 508,000, the births showed a rate of 39*·*445 per thousand, and the deaths a rate of 31*·*183 per thousand.



GROUND PLAN (FUTURE)



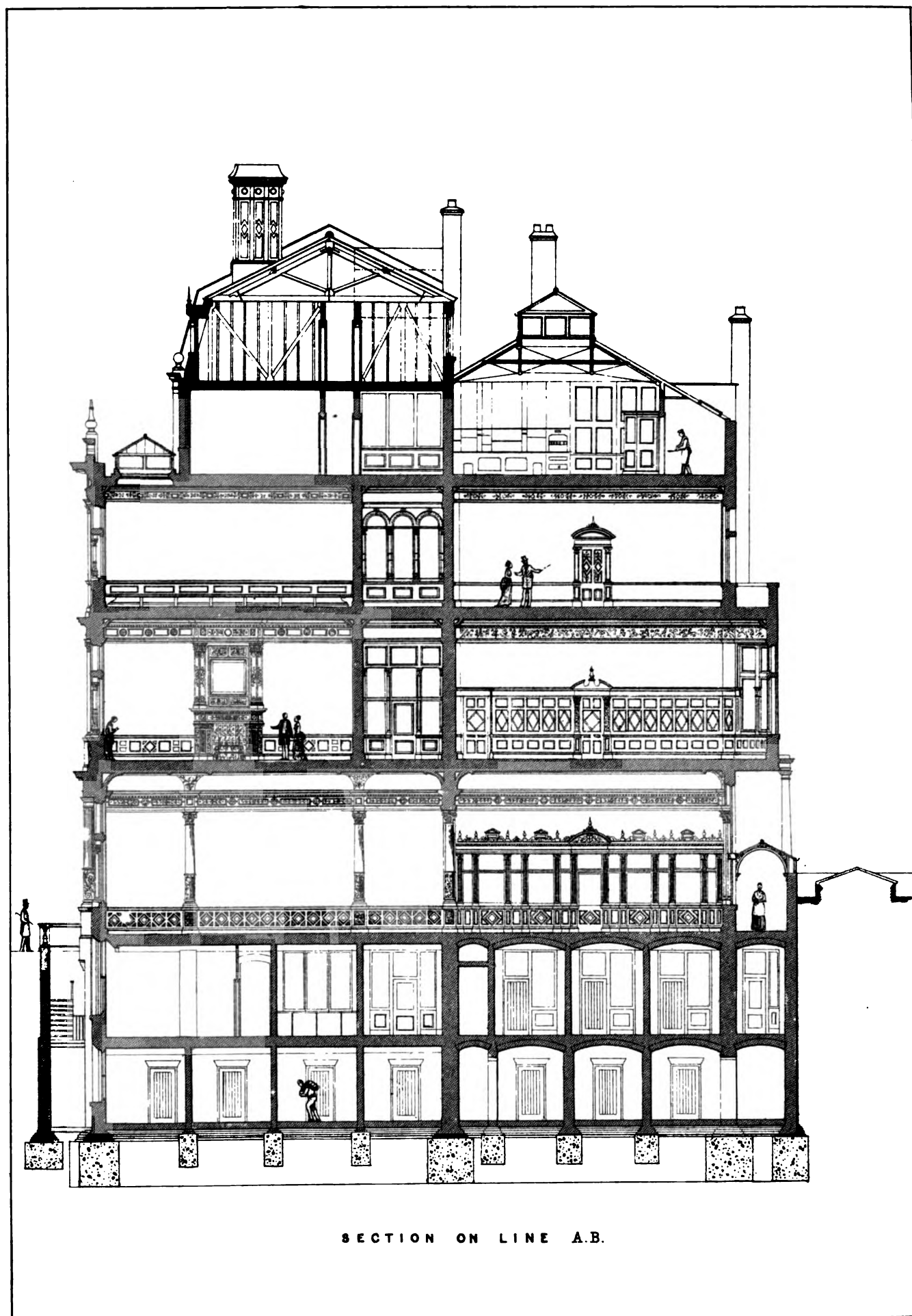
GROUND PLAN: (PRESENT)

DESIGN FOR "THE CITY LIBERAL CLUB."
T. CHATFIELD CLARKE, F.R.I.B.A. ARCHT.

Printed by W. G. Spence & Co. London, E.C.

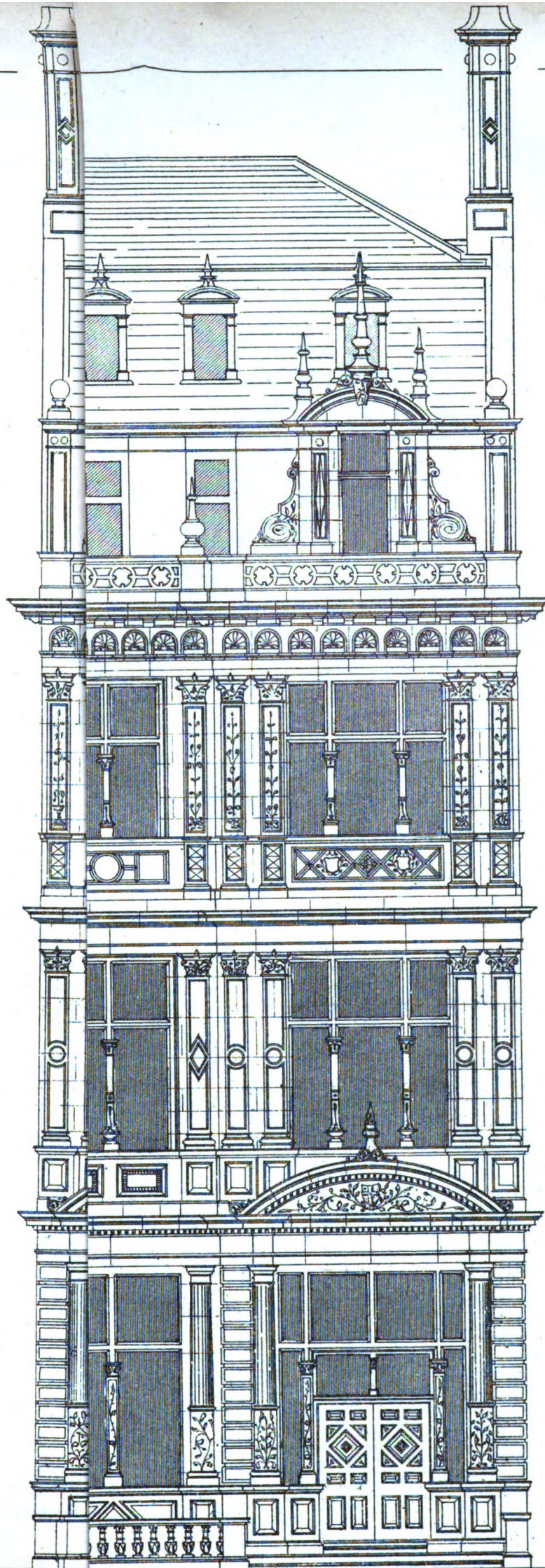




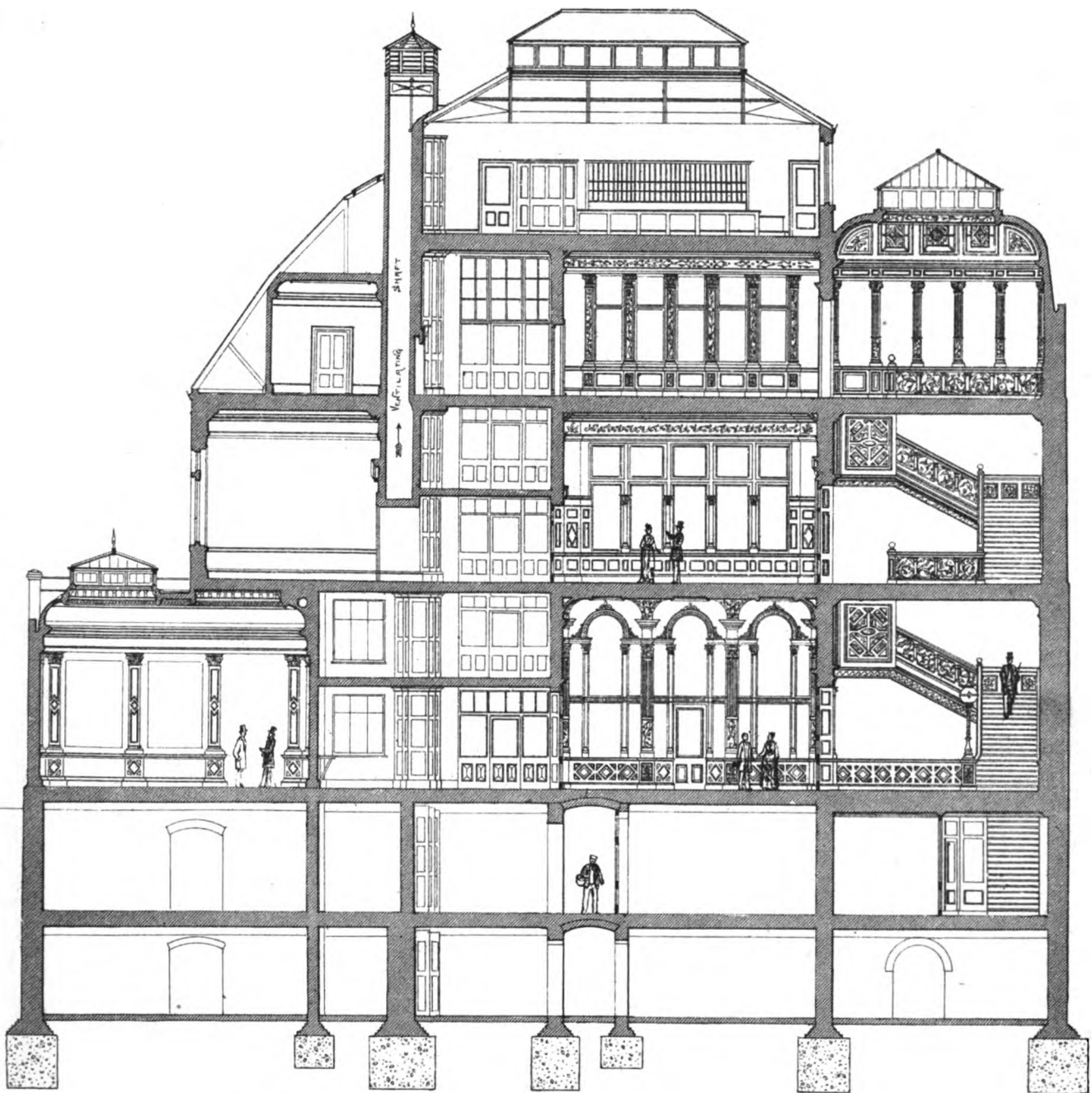


DESIGN FOR "THE CITY LIBERAL CLUB."
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Printed by W.W. Spanglow & Co. London, W.C.







SECTION ON LINE C.D.

DESIGN FOR "THE CITY LIBERAL CLUB."
T. CHATFIELD CLARKE. F.R.I.B.A. ARCHT

Printed by W.W. Gifford & Co. London. E.C.



ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE closing general meeting of the session was held on Monday evening, the President, Sir G. Gilbert Scott, R.A., in the chair. There was a large attendance of the leading members, and Sir M. Digby Wyatt, who has been for some time suffering from indisposition, was present, and was congratulated on his restoration to health.

Mr. F. P. COCKERELL (hon. sec.), said he had been desired by Mr. Eastlake, the Secretary, to state, for the information of students and others, that the library would not close until the end of August, there being a mistaken impression that it was closed on the termination of the session.

A vote of thanks was accorded to Mr. Horace Jones for photographs presented by him of the new Guildhall library.

A ballot took place for the election, as Fellows, of Mr. T. G. Andrews, of Bradford, and Mr. John Gibson, of Newcastle-on-Tyne; and, as an Associate, of Mr. E. George Jones, of 6 Granville Terrace, Haringay Road, Hornsey. They were all declared duly elected.

The Royal Gold Medal.

The PRESIDENT said: We have now arrived at that very agreeable part of our programme for the evening, namely, the presentation of the Royal Gold Medal. Before proceeding further, I must apologise for my loss of voice, having scarcely voice enough left to make myself heard. I will remind you of what you all know, that on the present occasion it was the turn of one to become the recipient of the medal who had placed our art and profession under obligations by his literary labours and published works, and we were perfectly unanimous in recommending to the Queen the name of Mr. Edmund Sharpe. (Applause.) I need hardly add that her Majesty very graciously, and I may say gladly, confirmed that recommendation. It may be observed that very much as it was the case in the century immediately preceding the last, though architects were thoroughly alive to the value of Roman antiquities, they were totally ignorant of or tacitly ignored those of Greece; so in the century immediately preceding our own, although it valued the antiquities of Greece and Rome, it seemed perfectly ignorant of the value which attached to the antiquities of our own and neighbouring countries, and of mediæval architecture. It is true that old John Carter began to make illustrations by actual measured details of antiquities towards the last decade of the past century, yet, practically speaking, the illustration of those antiquities belongs more to our own period; the elder Pugin who led the way being followed by others. But among all those who have contributed to the illustration of our English antiquities, in their actual details, I think our friend Mr. Sharpe stands pre-eminent, there being, in my opinion, nothing to equal in importance his works. Mr. Sharpe's "Architectural Parallels," resuscitated, as it were from the dead, the unspeakably magnificent details of our ruined abbeys. Those abbeys have been called at once the pride and disgrace of our country, at once the delight and shame of every intelligent traveller, for beautiful and picturesque as are the details the neglect they have received and the fact of their having been allowed to moulder into ruin without proper representations of such magnificent works being preserved is, I think, one of the greatest reflections on the art and art feeling of England. This neglect, I think, Mr. Sharpe has done more than any man to redeem. But to that great work he has added a number of others of an artistic and scientific kind which illustrate and explain the antiquities, the details of which he has so beautifully portrayed. And in his more recent works he has gone further than that, for in his Paper read in 1871, followed by others, he has furnished us with most interesting information respecting the history of Cistercian architecture. He has told us the history and habits of the noble order of Cistercians to whom we owe so many of our fine buildings. He has even added still further to our manifold obligations by his peripatetic lectures at the great gatherings of our archaeological societies. I was present at one of them last year, and anything more graphic and more likely to keep up interest in all concerning the art and art history of our country I have never had the privilege to hear. I will add another source of obligation under which we have been placed, not less than those I have enumerated, namely the most generous manner in which he has for some years devoted a certain portion of each summer to the conducting of large classes of architectural students through different districts that are interesting on account of their architectural remains, and directing the studies of those who accompany him. Last year I heard that no less than fifty students accompanied him through an important district of France, and I understand that this year he purposes going over an equally important district—that of Angoulême—where there are a number of interesting churches and other buildings searched out by himself. This system of a generous, artistic, and intelligent guidance of students on the occasion of these excursions strikes me as being a most important step towards awakening and keeping up the interest of students in matters of art. In conclusion the President said: I will not trouble you with any further remarks, but (addressing Mr. Sharpe) I can assure you that it affords me the greatest pleasure in asking your acceptance of this medal.

Mr. E. SHARPE (who received quite an ovation) said in reply: Sir Gilbert Scott and gentlemen,—I believe that in order duly to appreciate the honour, which the medal which has just been presented to me confers upon him who receives it, it is necessary that the recipient should either be an architect in professional practice, or one who has been so, at some earlier period of his life. For to such an one this testimonial, which, although the gift of the Queen, is the award of the representative body of the whole of his professional brethren, comes with a fuller significance and a higher value than it possibly can to anyone else. For my own part, I can assure you that on this account I look upon it as the highest possible honour that I could ever wish for or hope to attain. In my own case its value is enhanced by a consideration, the force of which you will readily understand. The works, the publication of which have obtained for me this honour, are not works of general interest; they appeal to no popular taste;

they have been published for the use and the instruction of the architect alone; they are, in fact, what the publishing trade call "Class Books." Their circulation is consequently very limited; much more so, perhaps, than those who have not tried the experiment might be inclined to suppose. The publication of such works is, in fact, it must be confessed, a somewhat expensive luxury, and the sole reward that those who indulge in this pursuit can expect, is the satisfaction that is derived from the belief that their publication is of use and value to those for whom they are intended. To receive then so satisfactory a confirmation of this belief as that which is conveyed by this testimonial, is, I need scarcely repeat, the highest possible reward that I can receive for any past efforts of mine in this direction; and in very sincerely thanking the Council of the Institute for the choice they have made this year of the recipient of the medal which Her Majesty is graciously pleased annually to bestow; and in thanking you, gentlemen, for your confirmation of that choice, and our worthy and distinguished President for the flattering terms with which he has accompanied the presentation of the medal, I can assure you that, greatly as I appreciate this honour, I shall look upon it quite as an encouragement to renewed efforts as the reward of those of which it is the gratifying expression of your approval. (Applause.)

Sir GILBERT SCOTT: I will add two or three words to this effect, that those beautiful buildings which delight us so much are daily falling into greater decay, and in a few years will probably have passed away; it is therefore such works as those of Mr. Sharpe which prevent their being absolutely lost to us. Speaking from my own short experience, I can say that works which I visited in former years I have since found obliterated. I have heard Mr. Ruskin say the same in reference to works he has visited in France and Italy, but the remark applies still more forcibly to works which are subjected to the influences of our destructive climate. Therefore, I think we are under great obligations to those who, like Mr. Sharpe, perpetuate those works, and I hope members may be incited to have a society which shall go on registering and chronicling them, with a view to the majority of them being handed down to posterity—at least in the shape of representations—like the works of Greece and Rome.

Mr. CHRISTIAN said that 37 years ago his friend Mr. Sharpe sent him on a pilgrimage to Furness Abbey, and he there spent one of the most enjoyable days in his life. He again visited it 25 years later, and it was distressing to see the havoc that had taken place. They could not, of course, prevent the railway turning the abbey gardens into tea gardens, but the decay to a great extent might have been prevented. He sincerely hoped that steps would be taken for the prevention of further destruction.

Mr. T. H. WYATT observed that among the names of those who had been mentioned by the President, in connection with the revival of ancient works, was the name of the elder Pugin. Perhaps they were not aware that the son, Mr. E. Welby Pugin, whose memory recalled painful recollections, had passed away.

The PRESIDENT expressed his sympathy, and stated that it was the grandfather Pugin to whom he had previously alluded.

Mr. SHARPE said that Mr. Wyatt's allusion had reminded him of the presence among them of the son of one to whom perhaps more than to anyone else they were indebted for the classification of those styles which they knew so well. He regarded him with great affection and esteem, and he used to be known as "dear old Rickman."

The presentation of the other medals and prizes was then proceeded with.—The Soane Medallion, together with a cheque for the first moiety of 50*l.* under the usual conditions, were presented to Mr. W. Hilton Nash; and the President addressed some complimentary remarks to the recipient. He said that he did not know until after the award was made that Mr. Nash's father was one of his oldest and most valued friends. In the same competition the Institute medal was presented to Mr. William Scott, the President stating that the award was an unusual one, but it had been made in consideration of the excellence of the drawings sent in by Mr. Scott. A medal of merit was also presented to Mr. A. T. Taylor, to Mr. R. J. Haines a certificate of honourable mention, and to Mr. W. J. Crocker the Institute silver medal with five guineas, to Mr. J. T. Hennessey the Institute silver medal, to Mr. James Neale a medal of merit, and to Mr. H. R. Perry and Mr. James Maclaren certificates of honourable mention were awarded. The Secretary announced that in addition to the award made in favour of Mr. Neale in the competition for the Pugin Studentship the Council considered the drawings submitted by other candidates were of such unusual merit that certificates of honourable mention had been presented to Mr. J. D. Oliver, Mr. E. J. May, Mr. A. J. Munton, and Mr. John Laing.—Mr. Eastlake also stated that Mr. C. R. Pink and Mr. James Jerman had become entitled to certificates of proficiency and studentship of the Institute for four years, for having satisfactorily passed the architectural examination in the proficiency branch; and the following were presented with letters announcing that they had passed in the preliminary class and ranked as students of the Institute for three years: Mr. John T. Hennessey, Mr. Robert Flemming, Mr. Wallace Gill, Mr. John H. Greene, Mr. Adrian Lane, Mr. William H. Thorp, and Mr. Robinson L. Wadmore. In presenting the Ashpitel prize (M. Viollet-le-Duc's "Dictionnaire" in twelve handsomely bound volumes) to Mr. Hennessey, the President congratulated him on his success, stating that although young in years he had proved his ability to compete successfully with elder students.

The medals and prizes having been distributed, Mr. C. F. HAYWARD read a brief memoir of the late Mr. Joseph James, who had been a member of the Institute for some years. Mr. James died on May 9 last at the age of 47 within a few days, having been a practising architect for the space of 25 years or more. He was a man of considerable talent, but was too modest to push himself unduly forward. His Taunton Dissenters' Chapel was a very creditable work, and he had built chapels at Halifax, in Yorkshire, Hemel Hempstead, and other places. His church of Barnsley was also particularly worthy of notice, the boldness of the design of the

tower being very remarkable. A few years since Mr. James lost his eyesight, and this, accompanied by the anxieties of a young family, preyed upon his mind so that his health gave way, resulting in his premature death.

Mr. CHRISTIAN took the opportunity of again advocating the claims of the Architects' Benevolent Society to their support. Here was a man dying in the prime of his life who ought to have been assisted out of the funds of the society.

Mr. EASTLAKE said that a letter had been received from Mr. Disraeli acknowledging the receipt of the report upon the subject of the excavations at Ephesus, and stating that it would be duly considered.

New Materials and Recent Inventions connected with Building.

The discussion (adjourned from the previous meeting) on Mr. T. Roger Smith's Paper, was then resumed.

Mr. AITCHISON said it was impossible to go through the whole of the various inventions and new materials of which Mr. Roger Smith had spoken, as they embraced nearly the whole of our modern discoveries, from a sash fastening to the Crystal Palace. He might mention one or two new inventions which were not named by Mr. Smith, but which were worthy of attention. There was the Mosaic pavement of glass which had been used for the transmission of light, and might be seen in some of the new courts of the South Kensington Museum; it was not only a very beautiful but a very useful invention. He also thought that reference should have been made to toughened glass. He heartily concurred in the hope expressed by Mr. Smith that some architect might arise who would be able to build handsome and permanent structures for a very little money.

Mr. NASH, in advertising to a statement that concrete walls when of great length were apt to split perpendicularly, said he had observed that to be the case for the past 20 or 30 years. If they examined old Roman walls they would notice perpendicular fissures of 30 or 40 to 60 feet in extent; he had observed that at Pevensey Castle, although from the magnitude of the ruin the fissure was not so noticeable as at Richmond Castle. Rubble walls of all kinds would shrink, if not at first, in course of centuries; they would find that no long rubble wall would ultimately escape being marked by perpendicular fissures. This question was not of so much importance in the matter of house building where the walls were of moderate length in proportion, but the fact remained that concrete walls were liable to shrink very materially, and notwithstanding the introduction of bond in the shape of tiles the splitting of the walls perpendicularly was not prevented. With regard to selenitic mortar, he considered it should be used with prudence, and being a damp material it was most valuable as a plaster; but he doubted whether in point of fact it ought to be used as mortar at all: the ordinary lime mortar was preferable, certainly so far as the weather was concerned. As an instance of the necessity for caution on the part of architects in the use of new materials, Mr. Nash stated that a few years since a person called on him with a specimen of indurated stone, for which a patent had been obtained. He (Mr. Nash) remarked that the stone was inflammable, and asked to be allowed to try it by putting it in the fire. He was assured that it was not inflammable, but after it had been in the fire for about five minutes it flared up like an oil lamp. Such a material might have answered very well in keeping out the weather, but he did not consider that it would have been prudent to build a house with it. The invention fell into disuse, but it served as an illustration of the care they should exercise in the adoption of new inventions.

Mr. HORACE JONES described a new plan for the construction of foundations, and which he had adopted in making excavations on a marshy site for a gasometer. The soft soil was worked up by the aid of cylinders, a six-foot pipe of concrete being used instead of an iron caisson, and the cost of working was considerably less than by the ordinary process.

Mr. G. R. REDGRAVE desired to say a few words on the subject of selenitic mortar. He understood that at the previous meeting the discovery of that material was said to be due to Mr. Westnacott rather than to General Scott. That statement had been made before, but he was at a loss to understand how such an erroneous impression could have been formed. In 1863 an interesting Paper was read by Professor Kerr, and specimens of artificial stone prepared by Mr. Westnacott were then exhibited. He always understood the theory of Mr. Westnacott to be that the presence of carbonic acid would increase the quickness of the setting of the mortar; but three years ago General Scott explained that the selenitic mortar was made by the addition of a small proportion of sulphate of lime to the mortar, and that the hardening of the mortar did not depend upon the presence of carbonic acid.

Professor KERR desired to disclaim the responsibility of having taken upon himself to say that General Scott was not the inventor of selenitic mortar, but he had simply pointed to a general impression which prevailed that the invention was identical with that of Mr. Westnacott. He had no desire to detract from the credit due to General Scott on account of any of his inventions.

Mr. EDMESTON stated that when he built concrete walls he took care that a certain amount of sand should be mixed with the concrete. It was pretty clear that the quality of the concrete would depend upon the excellence of the cement and the care with which a proportion of sand was mixed with the ballast.

Mr. COCKERELL said he had put forward the opinion that in the proper manufacture of concrete the body of the concrete should be a non-absorbent material, and it sufficed to coat that with a sufficient quantity of hard material, nothing being added to the strength by the filling up of the interstices.

Mr. HUBB said with regard to the permeability of concrete that he came across a church built some years ago in France, and the architect reported that the concrete was extremely permeable. The walls were about two feet thick, and frescoes painted on the interior were entirely destroyed. The concrete was moulded into blocks, having been first worked in a pug mill; but the architect considered that concrete was very objectionable on

account of its dampness. Whenever the wet found its way into the upper part of the wall it was sure to get into the interior. He had recently discussed the question with a practical man, and was told that the admixture of any quantity of sand, however slight, was deleterious to the setting of the concrete. There should be only a small quantity used for filling up the interstices.

Mr. AITCHISON suggested experiments with a view to obtaining a solution of what appeared to be a vexed question. They might talk any length of time upon the subject of concrete without coming to any satisfactory conclusion one way or the other.

Mr. MORRIS said he could not help thinking that Mr. Smith's Paper was unmanageably large, and although architects were not bound to adopt every novelty it was incumbent upon them to make themselves acquainted with the merits of the novelties they did adopt and for which they made themselves responsible. He thought it would be more convenient if a Paper like Mr. Smith's were confined to a more limited area. He did not think that sufficient attention had been given to Phillips's girders, that being a very meritorious and important discovery. Passing on to the more decorative process, there was the thin material of fibrous plastering; but he thought that kind of ornamentation had given way to cheaper processes and paperhangers now produced a number of very cheap and beautiful designs. It was said that a new invention had come into use for the toughening of glass, but the process was discovered in the olden times by a Roman artist, and he was behooved for his invention. If some method could be discovered for toughening glass without impairing its brilliancy he thought such a discovery would be exceedingly valuable.

Mr. J. D. MATHEWS stated that he had used sand as well as ballast in making concrete, but found that the wet came through. The proportions were about 4 of ballast, 1½ of sand, and one 1 of cement. The thickness of the concrete was about 8 inches, and the water came through from floor to floor.

Mr. PAYNE said he might quote engineering works to show that concrete did not let water through. At the Manchester Waterworks there were enormous reservoirs, and the engineer trusted to a wall entirely of concrete. In such a position as that it might be supposed that the water would come through, but the result showed that concrete was capable of being rendered absolutely impervious to water. That fissures might be avoided, was evidenced by the use of concrete by engineers in the construction of breakwaters.

Mr. NASH: What is the age of the waterworks at Manchester of which you have spoken?

Mr. PAYNE said that the concrete in the Manchester reservoirs was four or five years old.

Mr. NASH: That just makes the difference, because it shrinks very slowly. Your specimen has not yet been tested by time, and the case is also different of a wall exposed constantly to the water instead of being exposed to the air.

Mr. PAYNE said he had remembered an eminent engineer saying that concrete might be made perfectly impervious.

Mr. J. MACVICAR ANDERSON said it was clear to his mind that there was concrete and concrete. He remembered seeing a house that was intended to be built as high as the Tower of Babel, and the concrete continued perfectly dry and waterproof; but a case of failure had come under his notice, which was due to the ballast not having been thorough washed.

Mr. COCKERELL: That would be fatal.

Mr. ANDERSON: Upon the whole commend me to a brick wall, as there is always some risk attending the use of concrete.

Mr. EASTLAKE said he had hoped that Mr. Roger Smith would have been present, but he had received a note from him apologising for his absence on the ground of an unavoidable engagement elsewhere.

Mr. ROBINS observed that the pneumatic bells introduced by Mr. Zimdar were a great success.

Professor KERR said that the subject was so large that they might continue the discussion of it over a considerable number of meetings; but he ventured to express a hope that the Council might be induced to take steps for the production of an annual report on the progress of invention and the discovery of new materials. Upon the subject of concrete he would add no more than this:—it was after all simply an artificial stone, and as natural stone was absorbent of water artificial stone was much more absorbent, and it followed that concrete, which was not compacted by any pressure but left to consolidate itself, became very porous. If made with interstices on the one hand, or all compact with sand and lime on the other, in the one case if they put in large quantities of cement and lime it would become an absorbent limestone, and if in the other case they put in a large quantity of sand they would make it a sandstone, which also was absorbent. If the experiments suggested by Mr. Aitchison were tried he believed that all the different kinds of concrete would be found more or less absorbent. If they could protect it at the surface that would be a way to prevent the moisture getting into the material. The question of the application of machinery might be referred to. If machinery could be brought to bear upon carving, the result might be very advantageous in an economical point of view, as a large quantity of work would be thus produced; but the aim of the architect was not to produce a large quantity of spurious work at a small cost, and the introduction of machinery in connection with such purposes as carving ought to be regarded with suspicion. Again, if stone were moulded by machinery, the mouldings must be limited by the capabilities of the machinery, and they incurred the danger of producing a counterfeit representation of art. He differed from his friend Mr. Smith, when he said that building science had not made the same progress as had been made in other departments; he considered that architectural design had advanced very considerably during the last 25 years. In many points connected with hospital construction architects had during the last 20 years displayed their power of invention; and in such matters as heating and ventilation, notwithstanding

all that was said to the contrary, architects had kept pace with the times. They had also done all that could be expected from them towards curing such evils as smoky chimneys; but the remedy for such petty annoyances as these ought to be looked for from those who dealt in mechanical nostrums rather than from the architectural profession. Drainage also had considerably improved of late years, notwithstanding the undeserved charges which were made against architects on account of their shortcomings in that respect. In considering these matters Professor Kerr thought that regard should be had to the enormous growth of English fastidiousness, and it was impossible to give entire satisfaction to some people, who were never without a grievance, and sought for redress by writing letters to the *Times*. He maintained that during the last twenty years architects had done their duty to the public in the various matters to which he had referred. Adverting to another subject, Professor Kerr said that the question of timber houses had, as they were aware, engaged considerable attention. A gentleman went to Norway, and seeing a house that he liked reproduced it in the South of England and defied anybody to say anything against it; but there was nothing new about it although it was certainly Norwegian. He felt they must all acknowledge that timber construction could not be advantageously resorted to in buildings of any importance; but for cottages he believed that timber might be much more largely used, and with great advantage. There was now so much fastidiousness prevailing in reference to the cottages of the poor that he believed the difficulty would be met by the construction of timber cottages at a cost perhaps of 30l. or 40l. each.

A voice: How about vermin?

Professor KERR declined to discuss that question, and in conclusion described a plan discovered by an eminent smoke doctor for curing smoky chimneys, the leading idea being to do away with the gathering of the flue.

Mr. HALL, while agreeing with Professor Kerr that there had of late years been a great advance in architecture and art, said he thought that the advance was only in the nature of an arithmetical progression; whereas on the part of the speculative builders there had been a geometrical progression. The latter were willing enough to make use of ready-made forms, and he feared that there was also a tendency on the part of some who were present also to make use of these ready-made things. He doubted very much whether the use even of such things as artificial stone was desirable. Upon the question of ferro-vitreous architecture, it would be recollected that the building of 1851 was produced in answer to the demand for a fire-proof building, but in that respect it was most deficient. Instead of being a building of iron and glass, the chief material in it was wood, and it was certainly no response to the demand for a fire-proof building. He considered it was quite a mistake to compare Sir Joseph Paxton, able though he was, with the great architects of that day. How could he be compared, for instance, with such an architect as Sir Charles Barry? He thought it would be a good thing if some means could be devised for testing the durability of newly-invented materials, and suggested the grounds at the Alexandra Palace as offering a convenient site for the testing of such materials as bricks and stones by exposure to the weather.

THE PRESIDENT said he might relate a little anecdote of the great Pugin in reference to the building of 1851. Pugin was a great acquaintance of Sir Joseph Paxton, and, being on one occasion twitted by him, he smiled at Sir Joseph, and patting him on the back, said "You can build the green-houses and I will build the cathedrals."

The business of the session then terminated.

THE ST. GOTHARD TUNNEL.

THE International Commissioners, whose duty it is to inspect and report upon the progress made with the St. Gothard Tunnel and railway, have this year required a more detailed statement of the work executed than has been hitherto furnished. This statement appears in a tabular form accompanied with explanations and remarks in the *Politico*, a scientific journal published at Milan. From it we learn that during the last three months before the publication of the report there had been excavated at the Goenechen or Swiss side of the mountain 341.3 metres, being at the rate of 3.71 metres per day, and on the Italian side at Acrolo, 184 metres, or at the rate of only 2 metres per day, which together would give a progress at the rate of 2,100 metres per annum, the comparatively slow progress made on the Italian side being due to the hard nature of the rock met with, through which fortunately, however, little water percolated, so that the work was not impeded by that hitherto prevailing obstacle. With reference to the masonry and the excavation of the tunnel to its full dimensions—these are (says the report) evidently proceeding so slowly that serious embarrassment is likely to result from having too great a length of the small tunnel or drift way excavated in advance of the completed work. The number of perforators in operation, worked by compressed air, are stated to be sixteen in number, the compression of the air being effected by water power. We are left uninformed as to the length of the tunnel actually completed, as opposite the heading in the tabular statement "Length of Tunnel Completed," no figures appear. As regards that portion of the St. Gothard railway which follows the valley of the river Ticino, the works appear to have been prosecuted with considerable energy, as trains have been running on the sections Lugano-Chiasso and Biasco and Biasco-Bellinzona ever since December 6 last, or exactly three years since the formation of the St. Gothard Railway Company. As regards the section Bellinzona-Locarno, it has not been opened in consequence of the damage done by floods, which had rendered it impossible to construct the iron bridge at Verzasca. There are still incomplete in two other sections of the line many complementary works, and in some instances the trains have to pass through tunnels in which the centres and other supports still remain. These lines have been opened rather in compliance with a stringent clause in the concession than that they can be considered in a fit state for traffic.

A NEW SYSTEM OF GAS LIGHTING.

THE *Scientific American* states that there is in operation in Jersey City a new system of gas lighting, which abolishes gas works and machines which produce gas by the passage of air through, or mingling of air in, hydrocarbon vapour. Paradoxical as it may seem at first, there are no gas pipes—in short, the gas generator is located in the burner, and the invention reduces itself simply to the means of sending the requisite gas-producing material to that point in each post or fixture. The entire apparatus consists of an air compressor at some central locality, several small tanks (one to each lamp-post) laid under the side walk, a small air tube connecting with each from the reservoir filled by the compressor, and another small tube which carries a petroleum product up to the burner. This is the simple plant which it is proposed to substitute for elaborate manufactories, miles of piping, and innumerable meters at special points.

The tank is made of galvanised iron, with top and bottom of copper, and holds forty-eight gallons, that quantity of oil being somewhat in excess of a six months' supply. The hydrocarbon used is a benzine, grade 76, a product of low value, and for which there is but little or no industrial employment. It is fed into the tank through an aperture in the top, this being accessible through an iron cover and scuttle arranged in the side walk.

The cost of the system has been determined by the actual working of eight street lamps using a six-foot burner each. In 35 days of ten hours each, eight gallons of material per lamp were consumed, or 64 gallons in all. This at the present price of the oil—ten cents per gallon—would cost \$6.40. The aggregate number of hours is 2,800, so that, with the six-foot burners, a total of 16,800 cubic feet of gas was consumed. From these data it is clear that the cost per thousand feet is about thirty-eight cents, a mere fraction of the average cost of coal gas.

The invention would seem to be especially adapted for use in country towns and villages where no gas works exist, as it renders the lighting of the streets a matter of small expense and easily accomplished. It is also well suited for the illumination of gardens and pleasure grounds, as there can be no escape of gas to injure vegetation; and the necessity of tearing up the soil to lay heavy pipes is obviated. It may also be adapted to the lighting of buildings of any description. The tanks may be made to hold enough oil to last a year, so that filling need be done only at long intervals.

THE STORY OF A PICTURE.

MR. E. M. OSBORN, the artist, has during the week published the following curious narrative:—As I wished to be well represented in the Glasgow Institute of Fine Arts, I applied in December last to Her Most Gracious Majesty the Queen for the loan of a picture entitled *The Governess*, painted by me in 1860, which was selected by Her Majesty at the Royal Academy, and, according to the inscription on the back of the picture, was presented to the Queen by the late Prince Consort at Christmas that year. My request was most kindly acceded to and the picture sent from Osborne with the condition it was to be insured by the Glasgow Institute for 700l. At the close of the Exhibition it was forwarded to Mr. James Bourlet, the London agent for Glasgow, to whom I gave directions received from General Sir T. Biddulph, to forward the picture to Buckingham Palace. On May 16 I received a letter from General Sir T. Biddulph, saying it was impossible to sign the receipt certifying that the picture had been received in a satisfactory state, as it was returned with "a hole cut in it with some sharp instrument and several abrasions;" that the picture would be restored by Mr. Redgrave, R.A., and requesting me to inform the Committee of the Institute of the injuries to the painting. This I did, and received answer from the hon. secretary that "the picture had been packed under the personal superintendence of the acting secretary, who satisfied himself that it was securely packed, and saw the case closed and despatched." The hon. secretary expressed his regret, saying, "As to the responsibility, condition VIII. protects the Institute," but that "any reasonable expenses" incurred in putting the picture in order would be defrayed. I also wrote the same day to Sir T. Biddulph, deploring the injury, and offering to restore the painting free of all trouble and expense to any one but myself, proposing either to send for it, or to attend at Buckingham Palace at any hour Sir T. Biddulph would appoint, begging that no other artist might be allowed to work on my picture. General Sir T. Biddulph answered, "he considered it best that Mr. Redgrave should restore it." I again wrote, earnestly requesting I might be permitted to restore my picture, explaining fully why it was important the painter of the work should, if possible, restore the injured parts—Mr. Redgrave's execution and colour being entirely different to mine. To this no answer was vouchsafed. I, therefore, went to Buckingham Palace, hoping to obtain an interview with Sir T. Biddulph, who was, however, at Osborne. I inquired if it were possible to see my picture, but was informed it was sent to a picture-restorer in Piccadilly. I then wrote direct to Her Majesty, explaining matters, and begging that I alone might retouch the work, feeling most desirous to repair the injury to a picture which, as the gift of the Prince Consort, would probably have a value in her Majesty's eyes, irrespective of any merit of its own. The letter was inclosed to General Ponsonby at Balmoral, who acknowledged it, and said it should be laid before her Majesty. I then received a letter from General Sir T. Biddulph from Buckingham Palace, saying he had been advised of my letter to her Majesty, and that "it would have been better as the correspondence relative to your picture commenced with me to have continued it with me." In what way I fail to see, as my last letter was left unanswered and my request ignored. Sir Thomas Biddulph informed me "the picture is to be repaired under Mr. Redgrave's superintendence," adding, "as no alteration in the work is contemplated I cannot see why you should object." I do, however, "object" strongly, but am powerless to carry out my earnest desire to return the picture so kindly lent in a perfect condition. I can only resolve never to ask the loan of a picture again, and advise those who possess works of any value to be careful to whose hands they are entrusted.

THE COLOSSEUM.

MR. JOHN HENRY PARKER says that the Italian Government have spent about two thousand pounds sterling during the last year in the great excavations now going on in the Colosseum, and the great building can be seen in an entirely new light. It is evident that the Flavian Emperors built their magnificent stone corridors round a great theatre previously standing there, of which the galleries are chiefly of brick. The substructure of the theatre now made visible are of much earlier character than the superstructure; some of the walls are of tufa, a material not often used so late as the time of the Empire, and are probably of the time of Julius Cæsar, as in one place an arch in one of the walls of tufa is supported by a brick arch of the time of Nero. Pliny mentions an awning over the amphitheatre of Nero, which could have been on no other site; and Dion Cassius relates that Julius Cæsar built a great wooden amphitheatre, in which he exhibited wild beast hunts and naval fights with vessels of large size. The site of this is not mentioned, but it is probable that the substructure would be of stone or tufa, though the superstructure was of wood only. Three aqueducts have been traced in the Colosseum, and there are remains of the *piscine* of two of them close under the cliff of the Cælian Hill, one of the time of Nero, the other of Alexander Severus, in whose time the upper storey was built of stone, after the upper storey of wood had been burnt. Remains of the channels and larger canals for water can be seen in many parts of the building.

Greatest credit is due to the Italian Government for the spirit with which they are persevering in bringing to light the very important historical monuments of the Eternal City. They have to borrow the money at 8 per cent. for all that they do, and the educated classes in all the old Roman Empire, and especially in England, should come forward without delay to assist them. They are obliged to limit their work to the Palatine Hill and the slopes round it, including the Forum Romanum and the Colosseum, but this is only the tenth part of old Rome; there are many other important monuments, of which the remains might now be preserved at comparatively small expense, such as the great prison of the time of the kings of Rome, in which Jugurtha and his companions were imprisoned; the *Piscina Publica*, the porticus or arcade of Caracalla and Heliogabalus, between the great *Thermae* and the *Via Appia*; the House of *Pudens*, and many others, which are now for sale. If once sold, and modern houses built upon them, they will be either entirely destroyed or buried for generations to come; it is now or never that they can be saved, if only the money is forthcoming, and the sum required in each case will not be large. The Archaeological Commission just appointed, with Signor Fiovelli, from Pompeii, at the head of it, and consisting of the best-informed archaeologists of Italy, would be the medium through which the matter might be arranged. They have great power of purchase given to them, but no money; it is just a case where England might step in to help with great advantage to all parties. Archaeology is strictly neutral ground, and the Government, in making the appointments, have not cared to inquire whether a good archaeologist was of the black party, or the red, or the white. The Minister of Public Instruction is a very able, well-informed, and liberal-minded man, and deserves all the support that can be given him.

THE PAISLEY TOWN HALL COMPETITION.

IT may be remembered that a Mr. George A. Clark, who died last year in America, bequeathed 20,000*l.* for the erection of a Town Hall in Paisley; the matter was put into the hands of a committee consisting of the Provost and Magistrate of Paisley, with Messrs. James, John, and Stewart Clark, of the Anchor Thread Works, brothers of the donor. As the deceased had expressed the wish to have the building erected in the New town, after careful consideration the ground on the south side of Smithhills, between the river Cart and Abbeyclose, and extending from Smithhills to Mr. Henderson's church, was selected as a site. The committee agreed to have competitive plans, and offered premiums of 100*l.*, 50*l.*, and 25*l.* for the three best, and fifty-four sets of designs were received. To aid the committee in making a proper selection, the assistance of Mr. Mathieson, of Her Majesty's Board of Works, Edinburgh, was obtained. After receiving his report the committee awarded the first prize (100*l.*) to "*Fortuna Sequatur*;" the second prize (50*l.*) to "*Experientia*;" and the third (25*l.*) to "*The Moon*." The first prize plan is by Messrs. Rennison & Scott, Paisley; and the third by Mr. Henry Higgins, 273, Dumbarton Road, Glasgow. With reference to the second it appears that while there were two plans bearing the motto, "*Experientia*," there was only one envelope bearing this motto, and the committee accordingly agreed to communicate with the architect, whose address was enclosed in the envelope marked "*Experientia*," and ascertain whether he had lodged two plans, and if not, to describe his plan for identification.

The style adopted by Messrs. Rennison & Scott is early French Gothic.

In arranging the plan the public hall has been placed in the centre of the site, in order to be equally accessible from every point, and to be free from street noises.

The reading and smoking-room is situated at the north-east corner of the site, and has access from the various streets.

There will be no hall or smoking-room on the basement, the entire space being required for kitchen, store for hall furniture, choristers'-rooms, &c. Besides, in the opinion of the architects, it is a mistake to put one hall above another, seeing that both cannot be used together because the noise in the upper hall would spoil the hearing in the one underneath.

The main entrance will be from Smithhills, by a spacious ground porch of three bays. The principal entrance hall will be lit from the top by a glass dome, the light borrowed from the roof, and there will be three large front windows, besides the staircase windows.

The public hall will seat 1,290 persons, the back portion, under the gallery, being left unseated to be used as a promenade. The orchestra and platform are arranged at the south end of the hall, and are capable of

accommodating 300 persons, and part of the seating is so constructed as to be easily removed, so that at any time it can be used as a stage for theatrical or other purposes.

The smaller hall is placed at south-east corner of site, having an entrance from Abbey Close by a convenient hall and staircase, which is also used as an outlet from principal gallery. The advantage of placing this hall in this position is that it is separate from or can be used along with public hall, either as a supper-room or refreshment-room on a grand occasion.

The officer's house will be on the south-west corner of the site.

The ventilation of the building will be effected by Boyle's patent self-acting air pump ventilators, which are free from down draught, and have no mechanical motion. From the kitchen there will be four air shafts built in wall, and connected at ridge of roof by one of Boyle's patent apparatus. There is provision made for supplying fresh air as may be required.

The architect's estimate of the cost is 19,800*l.*

It was stated in the instructions issued to architects by the committee that the building should not cost more than 18,000*l.*, with 10 per cent. added. Possibly this may be the ultimate figure, but it is anticipated that the 20,000*l.* will not cover more than half the cost of the contemplated works. Already the trustees of Mr. Clark have expended about 10,000*l.* on the site that has been chosen, which, with the addition of an organ, costing perhaps about 3,000*l.*, and other matters, will more than probably increase the cost to about 40,000*l.* The Messrs. Clark, however, intend to bear all the additional expenditure. The work of erection will not be commenced before June next. The committee are prevented from acquiring one of the properties by a life-renter, with whom it seems impossible that terms can be made. As the Town Council go to Parliament next session for a Bill affecting the town, an endeavour will be made to get a clause inserted, seeking powers to remove the present obstruction. Once commenced, there is not much likelihood of any unnecessary delay taking place, as the Messrs. Clark are anxious to have the hall completed.

THE PROPOSED HARBOUR AT DOVER.

THE Report of the Select Committee to whom the Dover Pier and Harbour Bill was referred, and who were instructed to report upon the advantages which the proposed harbour, if successfully constructed, may afford to the defence of the country in the case of a European war, and for purposes of refuge and channel communication, has been issued, and is as follows:—

The evidence adduced before them leaves no room to doubt that, in the case of this country being obliged to engage in warlike operations, the proposed harbour would be of the greatest value and importance, both in a naval and military point of view. At the present moment it may be said that there is no place between Sheerness and Portsmouth at which vessels of Her Majesty's navy can obtain a supply of coal if required. The Downs are, no doubt, an admirable naval station, both in point of security and convenience of position, but coaling there would have to be carried on from sea-going vessels or floating depôts, which, in time of war, would be exposed to attack by the enemy, unless protected by works which at present do not exist. If the proposed harbour is successfully constructed, ironclads of the largest class can be moored alongside the existing Admiralty Pier, or the Eastern Pier, if modified with that view; coals from any part of England and Wales may be brought by railway in trucks direct to the sides of the vessels, and shipped with facility, safety, and despatch. In a military point of view the advantages of the proposed harbour in time of war are not less apparent. Hitherto no proper facilities have been provided either at Woolwich, Chatham, or Sheerness for the embarkation of troops; while at Portsmouth the length of wharf in the dockyard is quite insufficient, and in time of war would probably be required by the Admiralty for naval purposes. On the other hand, Dover is in communication by two railways with the military stations of Canterbury, Maidstone, Sheerness, Chatham, Woolwich, London, Aldershot, Portsmouth, and Shorncliffe; and, as the lines of rail come down to the pier, alongside of which the transports would be lying, a very short time would suffice for the embarkation of a large force. To these considerations must be added the important fact that the proposed harbour will be under protection of great military works, which it would be necessary to provide in any other position where a harbour for naval and military purposes could be constructed. With regard to its capabilities as a harbour of refuge, the committee, while of opinion that some advantage is likely to be derived by the commercial marine in this respect, yet do not wish to lay too much stress upon this advantage, and were that the only object in view, would not feel justified in recommending its construction. Lastly, with regard to the advantage of the proposed harbour with regard to Channel communication, there is no doubt that the convenience of embarking and disembarking in any weather in the smooth water of a sheltered harbour is of great public importance. That this is fully appreciated by the great companies which carry the postal and passenger traffic from the port of Dover to the Continent is sufficiently evidenced by the proposals which have in past years been made by them for construction of a smaller harbour specially designed for that purpose. In conclusion, the committee desire to draw the attention of the House to the evidence which has been submitted to them, and by which they have been much impressed, to the effect that a considerably increased extent of deep water space might be secured by a slight modification of the present designs, at an increased cost of moderate amount. It appears, however, to the committee that it would be beyond their functions to recommend such an increase of expenditure, and they therefore content themselves with bringing the evidence referred to specially to the notice of the House.

Messrs. T. E. Murray & G. H. Thomas, architects, of Liverpool, have been instructed to prepare plans and procure tenders for a new college at Birkdale. The cost will be about 10,000*l.*

WENSLEYDALE.

By A CORRESPONDENT.

THE county of Yorkshire is full of interest to the antiquarian and archaeologist. Besides its beautiful remains of abbeys and other ecclesiastical buildings, such as Fountains, Kirkstall, and Rivaux, which are well known, there are districts of Yorkshire possessing relics of older days, not often explored except by the tourist or the sketcher. Many of the dales which lie between the long ranges of hills following the course of the streams have been scenes of busy life in the Middle Ages, a most stirring and energetic period of our history.

One of these is Wensleydale, through which runs the beautiful River Ure, a small stream at first rapid, often varied with a fall or "force" of more or less importance, winding in endless curves till near Masham, where it widens into a broad and noble river, telling of its mountain origin even there, by its rocky bed and swift current.

Wensleydale proper does not begin till we reach the ruins of the Cistercian Abbey of Jervaulx. Very little is left of it, and being one of the known Yorkshire ruins, we need only remark in passing that it is built on the usual plan of Cistercian Abbeys, and that its chapter house must have been of great size. The hexagonal columns of grey marble which supported its lofty roof are still to be seen, and also the remains of the late Norman and Early English styles in the refectory. Its situation, lying as it does in quiet grass meadows, surrounded by gentle hills and green ash trees, has a sylvan beauty attractive to the artist, and the student of "Ivanhoe" greets as an old friend the abode of "Prior Aylmer, of Jervaulx." A little farther on, the stream of the Cover joins the Ure, and in the secluded valley through which it flows are the remains of Coverham Priory, which possesses good thirteenth century work in its gateway, still entire, and three piers of the nave of the Abbey Church; also some fine monumental figures of Crusaders. Higher up the south bank of the Ure, we come to the village of Middleham. It stands high on the hill-side, and at the top of its steep street frowns the castle, the grim stronghold of the great Earl Warwick, built soon after the Conquest, enlarged by the Earl of Westmoreland, the betrayer of Archbishop Scroope in 1405, visited often by Edward IV. in the King-maker's time, and by Richard III. We shall come to the residence of the Scroopes on the other side of the stream. Just opposite to Middleham, Bolton Castle stands on the bare hill-side.

Middleham Castle is chiefly remarkable for its massiveness, and possesses little beauty of structure or detail, though it is said to be unique as a specimen of architecture. The hall must have been fine and spacious, but the whole pile of building chiefly impresses one now with its great strength and value as a shelter or refuge in those times of war and violence. Middleham Church is worth a visit; its architecture belongs to the fifteenth century, and it has an east window of old stained glass, representing the Martyrdom of Saint Alkelda.

After descending the hill the road crosses the river to Leyburn, a small town possessing no architectural interest; then comes Wensley, from which place the Dale takes its name, and which has been of some importance and is of ancient date, as a visit to it will show. The church has been added to at different periods, but its choir appears to be of Henry III.'s time. Its ancient buttresses are sculptured with the names of Scroope, de la Pole, Fitz Hugh, and others well known in those times, and it contains a curiously carved family seat, a monumental brass, and one of the oldest parish registers in England, with many other relics of great interest to the antiquarian. In nearly all the small villages along the road up the valley we shall find some curious bit of ancient building, either in its church or in a half ruined house, probably an almshouse in the village street.

Redmire, Casperby, and especially Askrigg, on the steep hill side, have an old world look about them such as is not seen in the hamlets of the South of England. The houses are strongly built of rough grey stone, which lasts for centuries. The church towers are almost invariably fine, and we always find the remains of a rude stone cross in the market place, of which in most cases only the steps now remain. In one of these villages the curious custom still prevails of blowing a horn at ten o'clock every night from Holyrood Day to Shrovetide.

It is near Wensley that the scenery of the Dale becomes really fine; the hills rise higher on either side, and draw closer together, as the stream—in winter often a torrent—nears the head of the valley where it springs. But before recrossing the river to Aysforth, and seeing its noble cascade, we must linger before the ancient and desolate ruin of Bolton Castle, once said to be "the fairest in Richmondshire."

It is more for its historical than its architectural interest that we explore this grey castle. It is merely a square fortress with towers at the corners and traces of a portcullis over its main entrance.

It was built by Richard Scroope, High Chancellor of England in Richard II.'s reign, and continued in that family till its partial demolition at the time of the Commonwealth. Like Middleham and other strongholds, it was used by the Cavaliers and therefore rendered untenable when the opposite party was in power. In the wars of the Lancastrians, when Scroope, Archbishop of York, took the field at Shipton-on-the-Moor at the head of the insurrection against the king—Henry IV.—Bolton Castle was no doubt often the resort of conspirators, and a safe retreat. It was also the prison of Mary Queen of Scots for more than six months; from July to January the beautiful Queen lived in this lonely castle under the close guardianship of Lord Scroope, then warden and governor of Carlisle. She inscribed her name on a pane of glass in one of the rooms still called "Queen Mary's room," though the glass has been removed. Mary was brought here from Carlisle, as to a place of greater safety, a "house well moated round." Vice-Chamberlain Knollys, who had more to do as her gaoler than Lord Scroope, describes it to Elizabeth as "very strong, very fair, very stately. The highest walled house I have yet seen in England, with but one entrance, and half the number of soldiers may better ward and watch the same than the whole number thereof could do Carlisle Castle." Which Carlisle Castle had also a window towards Scotland, and an old postern-door thought dangerous.

Mary had recently escaped from Loch Leven, and with the escort of the gallant Lord Herries had come into England to be under the kind protection of her royal sister, and probably little expected to be kept a close prisoner at Bolton Castle, where she lived a solitary life, kept apart from all visitors. A Yorkshire gentleman of the honourable family of Laseelles was even roughly treated for trying to catch a sight of her, and described as "an arrogant Papist." Yet Mary was loth to quit the Border neighbourhood, and refused to leave Bolton Castle till Elizabeth sent a letter herself bidding her remove at once. This was on January 26. In inclement weather, and on sorry steeds, the Queen and her ladies had to set forth for Tutbury. We can fancy the party journeying along these rough, hilly roads, rougher still in those times, and are not surprised that it was thirteen days before they reached their journey's end.

Seven miles from Aysforth Force is the small market town of Hawes, where Wensleydale really ends. On the borders of Lancashire is the source of the Ure, and all around it the scenery is wild moorland, waste, and romantic. But Hawes itself contains nothing of special interest apart from its beautiful cascade. So we here terminate our sketch of a ramble in this interesting valley, which we have only taken as one amongst the many presenting equal attractions to the sketcher and antiquarian.

LONDON AND MIDDLESEX ARCHÆOLOGICAL SOCIETY.

THE sixtieth general meeting of the society was held on Wednesday, in the hall of Christ's Hospital.

Mr. ALFRED WHITE, F.S.A., read a Paper treating of the archaeology of Newgate Street and the neighbouring wards. In the course of his remarks he expressed his opinion that the Romans never did occupy that part of London at all; and herein he differed from his friend Mr. Black, and writers in the London newspapers. Not one bit of the late wall of London, which many of them remembered, was, he felt convinced, of Roman construction; it was all of later times. Had it been otherwise London would have occupied an area equal to two-thirds of that covered by Imperial Rome herself at the same period. According to the so-called Roman wall, London would have stood upon two square miles, whilst Rome, at the same date, occupied only three square miles. Now to suppose London the only city in the world to approach Imperial Rome at that date was a gross absurdity. Mr. White sketched out the boundaries of the old wards in this district—including Baynarde's Castle, which took its name from a castle on the banks of the Thames, Raringdon, and Aldgate. In support of his view of the history of old London he quoted extracts from the City records in the reign of Edward III.; one granting to the butchers in the parish of St. Nicholas Shambles a piece of land in the lane called "Secollane, near to the water of Flete, for the purpose of there in such water cleansing the entrails of the beasts; and upon such piece of land the butchers aforesaid were to repair a certain quay at their own charges, and to keep the same in repair, they paying yearly to the Mayor of London for the time being, at the feast of our Lord's Nativity, one boar's head." Another extract recorded a law ordaining "that all oxen, sheep, swine, and other large animals for the sustenance of our City aforesaid, to be slaughtered, should be taken to the village of Stretford on the one side, and the village of Knyghtebrugge on the other side of the said City, and there be slaughtered." Other extracts quoted by the speaker referred to the law against certain persons who brought to the City the "cheese of Wales called tolgar, and there sold it in secret;" to the necessity for every master in the smith trade to put his own mark upon his works, "such as heads of lances, knives, and axes, and other large work, that people may know who made them in case default shall be found in the same;" and to the law insisting upon the freemen poulterers standing before the church of St. Nicholas Flessambles, "and shall then sell their poultry so as not to meddle with the foreigners, in selling or in buying, on pain of forfeiture of the poultry between them sold, and their being committed to prison at the will of the mayor."

A discussion followed, in which the Rev. J. Hugo (who held that there were distinct evidences of Roman work in the Roman wall, the authenticity of which Mr. White has discredited), Mr. Crace, and the chairman took part.

Mr. CRACE next gave a short account of the early period of Christ's Hospital. He said that the site of the present building was originally occupied by the Greyfriars Monastery, the most superb that existed in the metropolis. In the time of Henry VIII., however, this institution and others of a similar character fell into the hands of the State, and remained in comparative ruin till the time of Edward VI., who restored it, and gave it up for the charitable purposes which had since been so well carried out within its walls.

The CHAIRMAN delivered a short address on the present building and other interesting details connected with the institution. He said there appeared to be scarcely any remains of the building which existed before the fire of London, although there still remained part of the old cloister of the Greyfriars in a very mutilated state. The chairman having alluded to other interesting portions of the building, proceeded to enumerate some of the eminent men who had been educated in the school, and amongst them mentioned the names of Coleridge, Charles Lamb, Leigh Hunt, J. Barnes, &c. He then referred to the many and curious customs performed by the boys on certain days in the year, and concluded by calling attention to a list of words used in the school which were not to be found in Hotten's Slang or any other dictionary.

An Experimental Trial Trip from London to Cambridge and back was made on Monday on the Great Northern Railway, in order to test the performance of one of Mann's "boudoir sleeping cars." The car is 30 feet long, and differs from the Pullman sleeping cars in two chief characteristics—first, that, instead of having one large room, it is divided into four small compartments or boudoirs; secondly, that its beds are placed transversely to the line of railway.

CLEANSING PLASTER CASTS.

A CIRCULAR has been issued by the Department of Science and Art, conveying the information that the Prussian Government have offered two prizes of the value of about 150*l.* (3,000 marks) and 500*l.* (10,000 marks), respectively, for the discovery of a new method of cleansing plaster casts, statues, etc., and for the invention of a new material possessing the advantages of plaster, but which will not deteriorate by repeated washings.

It seems that on the suggestion of the Prussian Ministers of Public Worship, Instruction and Health and of Trade, Industry and Public Works, a Committee of Archaeologists, Directors of Art-Museums, Artists, etc., was formed in April, 1874, to consider the management and preservation of plaster casts. It was found that in large and much visited collections, casts cannot be kept clean without periodically repeated washings, and that all methods hitherto known to prepare the casts for cleansing have but imperfectly served their purpose. The delicacy of the form or the colour of the plaster is liable by these methods to become more or less injured, while its surface is not rendered better able to resist the influence of the washings. The Committee supposed that this might, however, be avoided, if casts could be made of a material that would allow washing without having been previously saturated. Accordingly, they considered it desirable to offer the above prizes.

The first prize of 3,000 marks is offered for a method which will give plaster casts the power of resisting periodically repeated washings, without injuring in the least the delicacy of the form or the tint of the plaster. The special conditions are that:—(a) The method must be applicable, in equal degree, to all kinds of plaster occurring in trade, and must not diminish the hardness of the cast. (b) In order to entirely preserve the delicacy of the form, those materials are absolutely excluded which do not soak into the plaster. (c) It is not necessary to preserve the original colour of the plaster; a yellowish tint, or any warmer tint, may be allowed; but the evenness of the colour is, at any rate, indispensable. (d) Plaster casts prepared according to the method must stand repeated washings with soap and lukewarm water. (e) The method must be applicable to plaster casts of any size and shape. (f) Competitors for this prize are to prove the practicability of their respective methods by sending samples; and, if desired, by preparing casts placed at their disposal.

The second prize of 10,000 marks is offered for a material for making casts of art works possessing the advantages of plaster, but which, without any special preparation, will not deteriorate by periodically repeated washings. The special conditions in this case are that:—(a) The new material must easily allow castings in original moulds without their becoming more injured than with plaster, and it must reproduce the mould as exactly as plaster. (b) It is not required that the material should have the colour of plaster; a yellowish tint, or any warmer tint, may be allowed, but the evenness of the colour is indispensable. (c) The solidity of the material must not be less than that of plaster, so that it may be used for the largest casts. (d) Casts made of this material must stand repeated washings with soap and lukewarm water. (e) The price of the material must not considerably exceed that of plaster, and the price of the moulds for casting must likewise not considerably differ from that of plaster moulds. (f) Competitors are to prove the practicability of their material by sending samples in applied and unapplied states, and also to give proof, if required, by the actual execution of casts.

The Ministers reserve to themselves the nomination of a committee of experts, in order to examine the consignments which may be received. Competitors are to send with their consignments sealed envelopes, provided with mottoes, and containing the names of the senders. On the outside of these envelopes also is to be written the address to which the returned samples or any communications are to be sent. The consignments which have been found to correspond with the conditions stated above will become the property of the Government, and the names of the successful competitors will be published. The remaining consignments will be returned to the addresses given on the envelopes.

Competitors are to forward their consignments to the Royal Prussian Ministry of Public Worship, Instruction, and Health (Königl. Preussisches Ministerium der geistlichen Unterrichts, und Medicinal Angelegenheiten), not later than December 31, 1875.

SALISBURY CATHEDRAL.

THE Archdeacon of Sarum, in his last Visitation Charge, gives the following short description of the works of restoration at this Cathedral:—"The work has been in progress since 1863. During that time much has been carried out, but much remains to be done. Certainly twelve years ago the fabric and fittings of one of England's most glorious cathedrals were in a sad and almost ruinous condition. The matchless tower and spire (of which Sir G. Scott reported 'there was nothing to insure against their failure at any moment') have, we trust, been permanently secured by the restoration of the stonework at their base, and by the introduction of an ingenious system of iron ties. The parapets, copings, shafts, and mullions, which throughout the whole building were in a state of dilapidation, have to a great extent been made good. 'Ichabod' might have been fairly written upon the west front, with its sad decay and its eight remaining mutilated figures. The stone and marble work has been here restored, and it has been ornamented with 55 new statues. Within, the Purbeck marble shafts were in every direction ruined. The walls and roof were covered with an unsightly yellow wash; the flooring in many parts, both as to design and condition, was utterly unworthy; the fittings in the choir were such that the thirteenth century stalls are all that can be kept, and many of the lower row of these have disappeared. But now the Lady Chapel has been set in order and beautified. The architectural restoration of the choir may be said to be complete, and to have been carried out at a cost of 10,000*l.* as a loving memorial to the late Bishop, who had the restoration of the Cathedral so earnestly at heart. The ancient paintings upon the ceiling, and in part upon the walls, have been skilfully reproduced. The choir aisles and eastern transepts have been restored. The missing stall

work, the choir pavement, the restoration of the great transepts have been ordered, and are in progress. Upwards of 43,000*l.* has been expended. The public meeting lately held, and the appeal just circulated, has brought us in 5,528*l.* But I believe the works required before the choir can be reopened will cost not less than 5,000*l.* beyond the sum already promised. And I trust the committee will not ask in vain that this sum be soon placed at their disposal. There will then remain the restoration of the nave and north porch. And I say nothing of what I suppose may be fairly called necessary decorations for a Cathedral—some stained glass and some colour for our roof and walls. I cannot but allude with thankfulness to the handsome special gifts from individuals which the appeal now in circulation enumerates, and to those who have undertaken to raise funds for particular portions of the work."

General

The British Archaeological Society will hold their next annual meeting at Evesham, early in the month of August. The exact date is not yet fixed, but it is expected that the meeting, of which the Marquis of Hertford will be president, will begin on Monday, August 9.

Sir James Thornhill's portrait of Handel, which was formerly in the collection of Mr. John L. Ellerton, has been presented to the Fitzwilliam Museum at Cambridge by Mr. Adam Lodge.

Messrs. Batterbury & Huxley, of 25 Great James Street, Bedford Row, have been appointed architects to the new offices about to be built on the site of the premises 11 and 12 Clements Lane, which this week were let by auction and brought 2,230*l.* per annum, the lease being 80 years and the area 3,880 superficial feet, i.e. nearly 1*s.* 6*d.* per foot. The property was purchased in 1853 for 7,000*l.* The estimated cost of the new building will be 12,500*l.*

The Memorial Stone of the Rothesay Aquarium (which is the first in Scotland) was laid on Saturday last by Mr. Dalrymple, M.P. The cost of the building is estimated at 10,000*l.* The Marquis of Bute granted a free site and subscribed 1,000*l.*

An Aquarium, skating rink, ball room, winter garden, and a large hotel are to be erected in Great Yarmouth on a site facing the Britannia Pier, from designs prepared by Mr. Edward L. Paraire.

The Marble Bust of the late Mr. Charles Knight, which has been presented by the committee of the "Charles Knight Memorial Fund" to the Corporation of Windsor, in order to be placed in the Town Hall, will be unveiled on Monday next.

The "Carlisle Journal" says that rumours are current that negotiations are pending between the North-Eastern, the North British, and the Midland Railway Companies, and that inquiries are being instituted and inspections made with a view to the fusion of the three companies, or the settlement of some working arrangements which would be to the advantage of the three.

"The Age of Pericles" is the title of a new work by Mr. W. Watkiss Lloyd, on the Arts and Politics of Greece during the period between the Persian and Peloponnesian Wars, which is now at press, and will be published by Messrs. Macmillan & Co.

The New Fortifications of Metz are all but finished. The four forts added by the Germans to the seven constructed by the French, are, with the exception of Woippy, ready to be armed. The new Strasbourg fortifications on the left side of the Rhine are ready, while those on the right bank will require another 18 months. According to the opinion of German military men, Metz and Strasbourg will shortly be the strongest fortresses in the world, and in connection with Diedenhofen, Searlouis, and Briesch to the west, and Mayence, Coblenz, Gernersheim, and Rastadt to the east, will form an almost impregnable line of defence.

The Statue of a Female Figure belonging to the Mausoleum, commonly called Artemisia, has been returned to its place in the British Museum after having been newly put together by Mr. Crittenden, the original piecing of the fragments having been pronounced incorrect by Mr. Story and other connoisseurs.

A Portrait of the Very Rev. the Dean of Christ Church, Oxford, subscribed for his numerous friends and admirers, was presented to him on Wednesday evening at the "Gaudy" held in the hall by Mr. Gladstone, who came to Oxford specially for the occasion.

The Works for the erection of a Grand Hotel at Eastbourne have been commenced. The building is designed by Mr. R. K. Bleasley, of Eastbourne, and is being executed by Mr. G. Peerless.

The Worcester City and County Fine Arts' Association have decided to hold their annual exhibition of paintings and art objects in July next, at the Music Hall, Corn Market, opening on the 6th of the month.

The Cardiff Board of Health have adopted hydrostatic vans for street watering, and estimate that by using five of these vans instead of the nine present carts, the town will save over 200*l.* a-year, which may be wisely expended on other improvements.

The Cambridge Syndicate appointed to inquire what additional buildings are needed for University purposes have issued a voluminous report, containing a list of the requirements. Rooms are required for all the professors. A reading-room is needed for the University library; two examination rooms of the same size as the Senate house, and rooms for many other purposes are also required. The total cost of these additional buildings is estimated at 70,000*l.*, but how the amount is to be raised is not suggested in the report. The Syndicate also mention that the cost of the buildings and alterations required for the department of Natural Science will amount to 47,000*l.*, which, however, includes the cost of the new Geological Museum, partly provided for by the subscriptions to the Sedgwick Memorial Fund.

The Architect.

ARCHITECTURE IN IRON.



AMONGST the signs of the times just now there seem to be certain evidences of a desire on the part of architects to take seriously to the consideration of iron construction. There are of course two aspects in which they regard the subject. On the one hand they contemplate the possibilities of creating a new school of artistic treatment; on the other they see the triumphs of the engineers in the mere articulation of structural design, and ask themselves the question why it should be impossible for them to become the rivals of such daring and successful innovators in science. It is the second of these considerations with which we at present propose to deal. Of the first it is almost enough to say that if the scientific basis could but be established, the artistic superstructure might be left to the course of events. In a word, the principles of iron construction are, as we venture to think, a thing which at the present day it is the imperative duty of some of our architects to master, precisely as the engineers have mastered them; and, until this is accomplished, it is vain for mere ornamentalists to pretend to deal with the decorative treatment of the material. Here indeed we have but another illustration of the ever-recurring difference between architecture and draughtsmanship; it is the draughtsman who takes up the task of designing on paper some conventionally graceful variations upon the rude natural melody of an engineer's roof or bridge, but the function of the architect is to weave a similar melody for his own occasions, and to put upon it then, and not till then, the elaboration of detailed ornament to suit.

There have been two leading building materials common in use ever since the world began—stone and timber. Brick, from a very early period, has competed with stone; terra cotta is of the same class; modern concrete also is of similar character. But, until recent times, timber has had no other material to share its province. Iron is at length a substitute for timber, a material of entirely the same principles as distinguished from those of stone and brick. If we care to look back to primitive affairs, it is scarcely to be questioned that sufficiently scientific and artistic woodwork took the lead in man's earliest architectural efforts, perhaps everywhere; and that it is a great way-mark of human progress in one ancient land after another when we find stone work effectually superseding it. In a variety of ways in later times the stone and the timber have been felicitously enough combined, but the stone has certainly taken the lead in merit. Now that the iron has come to the front, as we may say, to take the place of timber, it is almost doubtful sometimes whether it does not aspire, not only to rival stone, but to overthrow it. When the second PUGN said to PAXTON "You shall build the Greenhouses and I will take the Cathedrals," no doubt there was a certain real grandeur in the jest, springing out of all the superb associations of the past; but neither is it to be denied that the votary of the new iron and glass work, regarding it as what is now somewhat pedantically if not pretentiously designated "ferro-vitreous architecture," could equally boast himself of aspirations for the future which might be all the more magnificent that they had not been realised.

The perfection of scientific stonework is the arch; that of timber work, and of iron work no less, is the truss. The simpler principle of the post and beam is common to both classes of material. The architectural design of the primitive and classic ages was formed, as we all know, exclusively upon this last-mentioned system. The later times of Roman ascendancy and the middle ages developed stone arch-work to a marvellous degree of perfection. But as yet timber work was scientifically of the simpler type, and it was only at the period of the Renaissance that trussing came to be introduced. From that time to the present the contrivance of this ingenious use of wood has been a favourite exercise of building skill; and now, when iron takes the place of timber, it may be truly said that the designs which are accomplished in the new material appear to be amongst the most wonderful efforts of genius, far surpassing anything ever done in the arch-work of stone, except of course in the incident of beauty.

But at the same time it has to be remembered that arcuation itself can be achieved in iron, and in a way which is peculiarly its own. The timber arches of *Durham* and *Emy* are in the end but bent beams—although no doubt well entitled to lay claim to the principle they profess; but the cast-iron arches of such structures as Southwark Bridge are veritable combinations of voussoirs. Here we are in fact reminded of the very singular circumstance that iron is of two essentially different kinds, and that in fact, whilst in malleable iron we have the equivalent of timber for trussing, in cast iron we have a material which accepts for itself the structural principles, not only of primitive post and beam construction, but actually in a great measure of stone vaulting. Malleable iron, that is to say, is fibrous like wood,

and cast iron granular like stone, the one calculated for all the services of tension as completely as the other is for those of compression.

In order to appreciate the mechanical principles involved in the design of iron work, it is necessary therefore to bear in mind such facts as the following. Cross strain is the crudest of all modes of sustaining a pressure, and under it every material we know is at its weakest. Convert this cross strain into compression and tension, and the material can do, perhaps five times, perhaps twenty times, the work. In the arch the whole structure is in compression. In the truss, certain members are all in compression, others all in tension. In the girder, when scientifically designed, a definite moiety is in compression, and another definite moiety in tension. All trussing, therefore, comes at last to this—that the truss is a girder, with the upper line in compression and the lower line in tension, the intermediate structure being no more in real effect than something which keeps the upper and lower lines at a determinate distance which is equivalent to the depth in the case of a simple or primitive beam. But when in any form of arch the voussoirs themselves are constructed apparently on this last-mentioned principle, it does not follow that their lower line is in tension, but that which is in tension is an imaginary chord or bowstring of which the effect of the abutments is the equivalent. Thus it is in all this that in iron we are led to adjust the sectional areas of top and bottom flanges and so on to meet the conditions of the material, whether cast or malleable, as regards its resistance to compression and tension respectively. Again, when in FAIRBAIRN'S girders a tube is used for a flange, and still more when in STEPHENSON'S Britannia Bridge a tube is used for the whole girder, the result is simply an instance of that return to primitive form—in this case the crude form of the rectangular timber beam—which in so many other cases marks the attainment of ultimate scientific perfection.

There cannot be any reason why our architects should fail to acquire the same mastery of science in the particulars here suggested which it is acknowledged that our engineers have so ably displayed. That hubbub of the indolent rather than of the ignorant—the calculation of strains—which of course constitutes the whole system of scientific construction in ironwork—becomes thus as easy as any other kind of mental labour; far easier perhaps than many; and the designing of such structures as the St. Pancras roof, the Charing Cross bridge, the Southwark bridge, and the Vienna cone, and even of more magnificent enterprises on the same and other such principles, becomes a mere case of attentive and accurate arithmetical calculation; whilst works like our Crystal Palaces, our everyday girder viaducts, the spider-web trussing of our great railway sheds, and so on, turn out to be but very ordinary business. If, as we have ventured to suppose, certain classes of members of the architectural profession are just now contemplating somewhat seriously the possibility of their acquiring an understanding of the capabilities of ironwork in detail, we are quite sure that the profession of engineers will in every way afford them encouragement to attempt a task which is indeed by no means difficult, and will even acknowledge the fact that those triumphs of constructive skill, which are popularly imagined to be the results of something like instantaneous inspiration on the part of the very leading constructors of the day, are in reality but the slowly attained results of a few days' careful figuring on the part of their by no means pretentious assistants.

The actual achievement by architects, in a similar way, of similarly complete and correct designs of construction for their own more particular works, would, we venture to think, be esteemed by the public more than anything else that could just now be aimed at; but the second question of the accomplishment of artistic effects suitable æsthetically to such designs, would probably be the much more delightful reward of the endeavour. To apply the conventionally accepted ornamentation of this or that period of past architecture in stone to the mere superficial adornment of iron construction is an amiable attempt, but an essentially weak and idle one. It is in fact no more than a reproduction of a certain kind of vernacular prettiness, or quaintness, or authenticity, or whatever else may be the characteristic, by way of a mere glamour thrown over ironwork just as it might be thrown over a twelfth cake. When a man of genius some fifty years ago published a treatise on "the Application of the Five Orders of Architecture to the Steam Engine," he did pretty much the same thing. Indeed it is almost creditable to the Victorian age that no ingenious person has ever yet issued from the lithographic press such a thing as an Attempt to apply Thirteenth Century Architecture to the Fleet of the Future. But if, on the other hand, we were to attempt boldly the development of new schemes of form and of ornamentation, on the ascertained and inflexible basis of actual iron construction, not taken from the engineer even, but worked out by the architect himself, who shall say that the artistic effects thus to be obtained would not become equal to those of mediæval arcuation in stone, in all their variety?

It is to be taken for certain that the profession of engineers will not attempt this, at least in England. Their ideas of beauty are already fixed; they are content to admire, like the anatomist, the mere fitness of scientific articulation. We may even go so far as to add the suggestion that if a few of our architects were to prove themselves successful in thus dealing with works of their own, it is not impossible that the engineers would be forced into an alliance with them for so dealing with works of theirs.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

By EDWARD W. GODWIN, F.S.A.

The Roman Plays.—No. II. Julius Cæsar.

FROM the Rome of CORIOLANUS to the Rome of JULIUS CÆSAR we leap over four centuries. Those four centuries were crowded with every kind of energy but with very little fine art, for this comes of other parentage, and is not to be had because of energy, be it of consul, dictator, or emperor. Soon after the Commonwealth had been established Rome found herself surrounded by enemies—Etruscan, Æquian, and Volscian. Under CAMILLUS FURIUS, censor, afterwards consular tribune and finally dictator, Rome conquered the Etruscan city Veii, and by this rose to a greater position than she had hitherto assumed. Then came the Gallic invasions, the destruction of the city that CORIOLANUS and TARQUINIUS knew, and the long series of wars which at last, about B.C. 282, ended in the city of Rome dominating all Italy or rather all Italian cities, for a few Greek cities in the south of Italy still held out. Less than twenty years after the date last mentioned began the Punic Wars, the first extending from B.C. 264 to B.C. 240. The result of which was that the Phœnician city Carthage transferred to Rome her rights in Sicily, and this island became the first Roman province. After twenty-three years came the second Punic War, and in B.C. 149 began the third Punic War, during which Carthage was destroyed and part of its territory was annexed as a province to Rome. Meanwhile, however, war was going on (B.C. 229) with the Greeks on the coast of Illyria, and the first Macedonian war began in B.C. 213. In B.C. 200 came the second Macedonian war; and in 196 the Greek allies of Rome were really her dependents. Still further and further did the city by the Tiber push her conquests until Greece lay almost at her feet, and the third and fourth Macedonian Wars (B.C. 171-148) ended in the subjection of Macedonia. Then came war with the Achæans; and Corinth was destroyed in B.C. 146. Now followed the conquest of Western Asia and its annexation, B.C. 133, as a Roman province. Before this, and during the Punic Wars, Rome had not only dominated Northern Italy or Cisalpine Gaul (B.C. 191), and soon after Liguria and Venetia, but had extended her power to Spain, which she had completely dominated by B.C. 133. Then we have the conquests of MARIUS, followed by the social war of B.C. 90, wars in Greece and Asia, and the final success of SULLA in the civil war with MARIUS, and the salvation of Rome in B.C. 83. Jerusalem was taken by POMPEIUS in B.C. 63, and what we call the Holy Land was from that time really subject to Rome. In B.C. 59, CAIUS JULIUS CÆSAR was Consul. In B.C. 60 he went into Gaul. In B.C. 49 the civil war between him and his son-in-law, POMPEIUS, began, and on the defeat of the latter at Pharsalos, CÆSAR was called Imperator and made Dictator for life. On March 15, B.C. 44, he was killed in the Senate—first, because he was entirely superior as a man to his contemporaries, and second because certain of the senators were envious of him, or to put it more kindly, thought him too ambitious, and feared his use of power would end in abuse of it. It is to the year B.C. 44 that the action of the play of Julius Cæsar belongs.

Now it was not until the Empire had been founded in the person of CÆSAR's great-nephew, CAIUS JULIUS CÆSAR OCTAVIANUS, who was dignified by the title of AUGUSTUS—that is to say, not before B.C. 27 that anything of great architectural importance happened to Rome. The Colosseum or Flavian Amphitheatre, the triumphal arches, the heavy rotunda of the Pantheon, the Column of Victory, the Tomb of Hadrian, called the Castle of St. Angelo, in fact, the buildings through which the modern mind usually receives its idea of Classic Rome, belong to the Christian era, and are from one hundred to two hundred years later even than the age of AUGUSTUS. Again, the fragments in the Forum of the Temples of Minerva (Jupiter Stator), of Saturn (Jupiter Tonans), and Mars Ultor, are later than the time of JULIUS CÆSAR. "Classic" Rome, as we usually understand the phrase, really begins with the comparatively peaceful reign of AUGUSTUS. To his time belongs that bold copyism of Greek work, which has given us the three Roman editions of the Doric, Ionic, and Corinthian orders or styles. To the AUGUSTAN age belongs also that imitation of Greek art, in another form of expression, made famous by such men as VIRGIL, OVID, HORACE, and LIVY. It is true that in CÆSAR's time we have as writers, besides the great Dictator himself, CICERO and the poets CATULLUS and LUCRETIUS; but the highest reach of Latin literature is later than CÆSAR, and the most distinctive, i.e. the least imitative, is, like the architecture, later even than the time of AUGUSTUS. Nevertheless, we may be tolerably certain that the days of CÆSAR, CICERO, and CATULLUS had an architectural expression of their own, although no doubt very inferior to the refinement of Greek art on the one hand, or the vigour of the later Roman on the other hand. The importation of Greek statues might certainly have added to the art furnishing of the city, but the importation of Greek artists must not be allowed to count for much, first, because Greece itself was in its decline, and had no art comparable with that to which we usually refer as characteristic of the artistic excellence of the Hellenes; and next because if they had existed they would have felt in Rome much the same as the Jews felt long before, when they found the sorrow of their hearts

enlarged and their eyes too full to sing to those who had led them away captive the melodies and songs of their own home. "*By the waters of Babylon we sat down and wept, when we remembered thee, O Sion,*" has been the cry, and must ever be the cry of every human soul in the heaviness of bondage or banishment. But in saying this I do not by any means wish to imply that the Rome of B.C. 44 had no architecture worthy our attention. There may have been a great deal of truth in the saying attributed to AUGUSTUS, "I found the city of brick and left it of marble." No doubt the city of B.C. 44 was built mainly of brick, tufa, and wood, and it is quite possible, not to say probable, that the tufa walls lately discovered in the substructure of the Flavian amphitheatre are portions of the walls on which JULIUS CÆSAR's wood amphitheatre stood. On the other hand CICERO gave about 30,000*l.* for his house on the Palatine hill. For half a century before this marble had been used, and although L. CRASSUS had only a few marble columns, not more than six, and these not more than 12 feet high, in his house (c. B.C. 95), yet M. SCAURUS erected in his atrium black marble columns as much as 30 feet in height. One who wrote about a hundred years after CÆSAR's death tells us that in the great Dictator's time some houses were even lined with slabs of marble. But it seems these were rather exceptional cases, and that structures even partially built of marble were only for the favoured few or the richest of the patricians. The greater part of the city was unquestionably built in narrow and irregular streets lined with houses so high that in the time of AUGUSTUS a kind of building act was passed restricting the height of street fronts to 70 feet. These many-storeyed houses were let out in flats at rents arranged on a sliding scale, as in London and other towns at this day. And we may be tolerably sure that these towering tenements were built of wood or brick and roofed with thatch or shingles, for the class of people who dwelt in them were mostly either slaves or poor citizens living a wretchedly idle and dirty life.

Now turning to the play, we find there are eighteen scenes, the first eleven architectural, the others the plains of Philippi.

The eleven are all laid in Rome, and can easily be reduced to the following six:—

1. A public place (for the whole of Act i.).
2. BRUTUS's orchard (Act ii. Sc. 1).
3. A room in CÆSAR's palace (Act ii. Sc. 2).
4. Street before the house of BRUTUS (Act ii. Sc. 3 and 4).
5. The Capitol (Act iii. Sc. 1).
6. The Forum (Act iii. Sc. 2 and 3, also Act iv. Sc. 1, for there is no reason why this short scene should not have happened under some public colonnade).

This list may be still further reduced by making No. 1 serve also for No. 4, so that our public external scenes will be limited to two, viz., a public place before the house of Brutus, and the Forum.

A public place in Rome was laid out (like the streets) in a formal right-angled fashion after the fire of A.D. 64, before this time the open spaces in front of the public buildings or the houses of distinguished senators might be either regular or irregular. But whatever were the boundary lines of the space itself there would be an interruption to their continuation wherever houses like that belonging to BRUTUS stood. For here an extra open space would be added forming a front court to the house which the Romans called the *vestibulum* and the Greeks *πρόθυρον*. This vestibule was surrounded on three sides by buildings, but on the fourth side it was open to the street or public place. In the centre of the recessed side or principal façade was the front door, opening into what we now improperly call the hall, or vestibule, but which was then called the *ostium*, or *janua*; that is to say, the place of the doors or opening. These doors were nearly always in pairs, or folding; and thus we find the word for the door itself generally used in the plural—*fores*. Some important doors were so wide as to be made in more than two folds, so that each side was folded back twice or more in itself, just like the large Japanese doors are at the present time. The wealth of material—of wood and bronze, ivory and silver, tortoiseshell and gold—expended on these doors and door-cases, their great size as compared with modern proportions, and the reverence, not to say superstition, with which the threshold was regarded, show us the paramount importance of these features in the exteriors at least of domestic classic architecture. Passing through the *ostium*, paved with marble, we enter the real hall, or *atrium*. In small houses this would amount to nothing more than an inner court-yard, having a tank in the centre, with a shed roof against the four walls as a protection from both sun and rain; but in the mansions of the nobility this courtyard expands into a richly decorated quadrangle, with the *impluvium* and fountain in the centre; whilst busts, statues, bronze seats and tables, covered with skins or embroideries, ivories and curtains heavy with gold and crowded with needlework made the shady walks beneath the wide-spreading roofs a very pleasant lounging place after breakfast, as BRUTUS or CICERO chatted with their friends, received clients, or snubbed deputations. Beyond the atrium facing the entrance or *ostium*, was a room called the *tablinum* (what we should call an ante room), one side was open to the atrium, and the opposite side to the *peristyle*. A passage way or *fauces* by its side shows that the *tablinum* was not used as a common corridor. The side passage was, no doubt, for the servants, and the large opening for the guests. Beyond the peristyle another broad opening called *ecceus*, with its attendant passage, led to the garden or

orchard, so that from the front door to the garden an uninterrupted view, varied by beautiful gradations of light and shadow, could be had whenever the curtains of the oecus and the tablinum were withdrawn. Round the two courts (the atrium and the peristyle) the various apartments of the house were arranged.

Such is the general plan of one of the most important houses in Pompeii, and its length from the street door to the garden entrance is about 200 feet. I see no reason to suppose that the first-class houses of Rome were widely different from this. Granted plenty of land at his disposal, and there is hardly a limit to the number or size of courts or peristyles a wealthy Roman aristocrat might desire—and have. There was no lack of size nor of costly furniture, no lack of slave-work in tessellated floor and encrusted wall, no want of most lovely statues from Greece, or textile fabrics from Asia, for every country that had been dominated by Rome, and that possessed artistic work worth having, contributed to make the houses of Roman nobles all glorious within. But in spite of all this there was really no architecture—artistically speaking. And in this sense any one of the buildings of the Athenian Acropolis, Parthenon, Propylaea or Erechtheum would have outweighed all Rome.

The first scene of the third act is described as laid in the Capitol. Now the Capitolium, properly so called, was the temple on the Mons Capitolinus—the triple shrine of JUPITER, JUNO and MINERVA already referred to in my notes on the play of *Coriolanus*. The old Etruscan building of Tarquinius Priscus that CORIOLANUS saw had been burnt down (B.C. 83), rebuilt by SULLA and dedicated B.C. 80. Imposing it possibly was not; rich in all sorts of borrowed art it may have been; but we must not confound it with the work of DOMITIAN, that temple which was 200 feet square, to which 100 steps ascended, whose gates were of bronze, and whose ceilings and tiles were overlaid with gold at a cost of 12,000 talents. The temple of the year B.C. 69 was no doubt less in size and far less sumptuous than its successor, and if we may accept as any evidence the coins of VESPASIAN, it was not much superior to the Etruscan example. Like the mediæval Councils and Parliaments of England, the Senate met at different places, in accordance with the summons of the Consul. It was in the Temple of Jupiter Stator, on the Palatine, that the Senate met on the important occasion when was enacted the great parliamentary scene between CICERO and CATALINE, which ended in the utter discomfiture of the latter. It was in the Capitol—and I would venture to say in the pronaos, otherwise the prodromus of the temple, enclosed by marble screens and thick set with statues, that of POMPEY among others—that the mighty JULIUS fell. But neither this nor the houses or palaces of BRUTUS and CÆSAR can be fairly described without drawings. The Forum of the play is unquestionably the principal one of the city, or the Forum Romanum, the site of which was in the valley between the Capitoline and Palatine hills—an irregular space, one end wider than the other where was placed the platform from which BRUTUS and ANTONY made their speeches to the people. The whole enclosure did not cover much more ground than an ordinary cathedral does, and so, this proving insufficient, CÆSAR built another, called the Forum Julium, and after him AUGUSTUS built a third, but of these we know next to nothing, for the remains which now exist are those of TRAJAN's forum (A.D. 98-117).

In speaking of the *costume* of the time of JULIUS CÆSAR, we must be careful, as with the architecture, not to confound the distinctively Roman style of the full-blown empire, as shown on sculptured column and triumphal arch, with the transitional style of the later days of the Commonwealth. People are far too much in the habit of looking on the styles of art in Greece and Rome as stagnant, the one represented by her Parthenon, the other by her Colosseum, which is about as reasonable as it would be to look at the church of HENRY III. at Westminster, and forget there was ever a Waltham, a HAROLD, or an EADWARD. There can be little question that until the empire was established and the arts of foreign countries not merely looted but brought to bear on Rome with something like a definite influence, in costume as in architecture and other arts, Etruscan traditions still formed the basis. Real authorities as to the costume of JULIUS CÆSAR are by no means plentiful. It is true SUTONIUS TRANQUILLUS in his "Vite Duodecim Cæsarum," gives us detailed descriptions of the dress as well as of the persons of JULIUS and OCTAVIUS, but SUTONIUS wrote quite a century and a half after the death of CÆSAR, and is not so carefully accurate in all other matters as to lead us to place any more reliance on his description of the dress of B.C. 44 than we should on a *Daily Telegraph* review of the habits and manners of A.D. 1700. DION CASSIUS shows more discrimination and is more careful of detail; but then DION is later even than SUTONIUS, for he wrote more than two hundred years after the events recorded in the play. It is more than likely that the costumes of the later years of the commonwealth were not very widely different from those described in my last article. It may be that the toga and tunic were fuller than in the true Etruscan examples, and that there was less of the Asiatic and more of the Greek in the general toilettes, not only in the dress but in the mode of wearing the hair, personal ornaments, &c.; but as my next article will be on the play of Antony and Cleopatra, I reserve further comment on the costume of this period till next week.

Mr. Atkinson Grimshaw's *Picture, Spring*, has been purchased for a large sum by Messrs. Agnew.

WORKS IN BLACK AND WHITE: DUDLEY GALLERY.

THE "Black and White" exhibitions at the Dudley Gallery, of which this is the third, probably owed their establishment to a revived interest in the art of etching. Etching is in fact the fashion at present. The more disappointing is it to find at the Dudley Gallery such a scanty number of specimens: it seems rather hard upon the originators of this enterprise that more of the distinguished etchers of the day, both English and foreign, have not found it worth while to contribute of their best work, by way of encouragement to a praiseworthy undertaking, if not for their own glory. Such etchings as are worthy of note are chiefly contributed by gentlemen on the committee, which numbers the distinguished foreigners JULES JACQUEMART and LEON L'HERMITTE. The chief excellence of the exhibition is the variety of methods of which it affords illustration. We have aquafortes, a few mezzotints, drawings in pen and ink, pencil, sepia and Indian ink, charcoal and chalk studies, a few drawings on the wood, and an experiment in staining on wood by Mr. HERKOMER.

The finest things in the Gallery are certainly the works in charcoal by M. L'HERMITTE. This artist seems not only to think out his subjects in black and white, but there is a special affinity between the medium in which he works and the manner in which he looks at nature. The crumble of the charcoal, its velvety darks, and broken quality of graduated tones, suit well the rather solemn simplicity of his scenes from peasant life, or quiet studies of old buildings; for in all of these there is a certain sad suggestiveness, whether it be of pathos in the human life, or of wear of time and change on places where men dwell. Other studies in charcoal worthy of note are landscapes, as for instance *The Monk's Walk*, by J. S. RAVEN; a clever scene in *The Forest of Fontainebleau*, by M. RÉVE, two effective landscapes by ACHILLE DIEN, a large study in black and white by M. AUMONIER, for his picture now in the Academy, of *The Thames at Great Marlow*, and a piece of well observed atmospheric effect *Clearing up for a Fine Afternoon* by Mr. KÜMPFEL.

The immense demand for good illustrations to pictorial papers, periodicals, &c., has stimulated an especial industry among figure artists. To commissions for the *Graphic* newspaper, for instance, we owe, as it appears, a vast number of clever pictures which have passed through various stages, from the artist's first drawing, the subsequent engraving, and often finally a water colour or oil picture of more or less importance. As example we see here a study of two pensioners for the *Last Muster*, executed for the *Graphic* by Mr. HERKOMER, and now in much amplified and glorified estate on the Academy walls in oils. Several other of the original Tyrolean sketches by this artist have appeared in the *Graphic*, and afterwards as water colour drawings in the Institute. M. VICTOR HUGO's story, "Ninety-Three," which was first published in the same newspaper, has inspired a wonderfully spirited set of illustrations by various artists, Messrs. HERKOMER, W. SMALL, and Mrs. ALLINGHAM (H. PATERSON). Amongst work of a like kind are drawings by Mr. GREGORY and Mr. C. GREEN, and we must point admiringly to another study by Mr. SMALL—*The Ploughing Match*. These things are really all capital in their way, and quite as good as foreign work. We have been drawn to a beautiful drawing in sepia by G. CLAUSEN, *At the Altar of Our Lady*, two peasant children in profile kneeling at their simple devotions, where the sun from a side window touches the close capped heads and little straight figures. This artist has been hitherto known by his designs for decorative work, but this drawing is charming in feeling, and cleanly and pointedly executed.

The familiar fun of M. DU MAURIER will delight his admirers in the studies for *Punch*, as will the illustrations of JOHN TENNIEL. On the screen enlivened by these is an exquisite little idyll by M. LÉVY in pen and ink, *Le Gué*, a youth carrying a girl across stepping stones. The execution of this morsel is wonderfully tender and delicate. For like qualities, but left in sketchy incompleteness, we must notice an illustration to Milton's *L'Allegro*, by FREDERICK TAYLER. A little study in Indian ink of *Oriental Arms*, by the etcher, J. JACQUEMART, shows that precision and assured ease of handling which distinguish his aquafortes. Some large figures by H. S. MARKS, A.R.A., in black and white, excellent as they are, well drawn, pointed in humour, capital in general plan of light and shade, yet lack, in common with his oil and water colour work, character in touch and force. It is curious that an artist exceptionally original in fancy should exhibit handling so comparatively insignificant.

Prominent amongst the drawings are about half-a-dozen of the designs for the Gospel illustrations of the famous BRDA. These are in some respects disappointing. The admirable etchers who translated these compositions have often improved upon the originals; as an exception we may cite the *Foolish Virgins*, the mysterious gradations of gloom in which are finer in the drawing than in the etcher's too black translation.

Two mild cartoons for certain religious subjects, painted by Mr. WESTLAKE, in a church at Notting Hill; a composition in red chalk, entitled the *Fate of Benefactors*, and explained by a long poetic extract, by Mr. CAVE THOMAS, and a number of very large studies of heads by various authors, are the most ambitious and least satisfactory specimens of art in light and shade to be seen here. Perhaps we may also include a truly remarkable pictorial comment on the *Nineteenth Verse of the Twenty-fourth Chapter of Deuteronomy*, by

Mr. F. G. WALKER. Also too singular to pass over is an awful encounter between a giraffe, a lion, and a lioness, with three more giraffes in the distance, entitled, *The Fourth Ward Loafer*, New York, by ALFRED G. KNISLE!

Let us turn to the etchings. Here, at least, the subject matter and manner are comprehensible enough. Many of the etchings, and some of the very best, are translations of pictures, and the interest is of a special character, as the interpretation of one artist by another. Thus *Le Liseur*, after MEISSONIER by JACQUEMART, in which the etcher, otherwise so acutely faithful, has certainly mismanaged the foreshortening of the crossed legs of the seated figure; *La Partie intégrale*, a capital etching after VIBERT by MONTENI; two etchings from TOULMOUCHE by FLAMENTS, clever, of course, but as translations of the artist's manner not successful, at any rate in case of *Cherchant un Livre*; a very fine etching by RAJON, of WATTS's portrait of the *Rev. James Martineau*; there is much quality in this work, though it is, may be, rather laboured. The copies by English etchers from pictures are also creditable. Mr. EDWIN EDWARDS' versions of OLD CROME are rather scratchy and scribbly, but by no means to be despised; Mr. WALTNER, who dates from Paris, exhibits a careful, rather heavy, etching of ROMNEY's *Mrs. Fitzherbert*, a splendid transcription of DELACROIX's *Moorish Women*, and, also plucky, of a *Spanish Peasant*, by REGNAULT. Mr. HOOK etches his own picture, *Brimming Hollands*, and Mr. HAYLLAR, in mezzotint, reproduces figures, one of which, *Once a Week*, a man asleep in his pew under a dull sermon, is capably drawn. Not many etchings after out-of-door nature attract. There is a beautiful little plate from a *croquis* of a street view by MAXIME LALANNE, the only contribution of this charming etcher. Also must be noted the architectural subjects by Mdlle. G. NEIL, firm, spirited work, implying quick eye and practised hand. The etchings of M. TAIEÉ do not attract us; they want unity.

The finest landscape etching in the Gallery is a large composition of trees and sky during a *Coup de Vent* by M. LEGROS. Very few etchers would venture to tackle the subject on such a scale, but the large, broad manner of M. LEGROS carries him at ease through passages where a less skilled artist must falter and fall into incoherency. If the general merit of the black and white contributions were up to this pitch we should not have to record that the exhibition is, on the whole, rather disappointing.

ANCIENT AND MODERN MURAL DECORATION.

By MR. THOMAS WHITBURN.

(Concluded from page 332.)

ANOTHER artistic revival, also, the progress of which is matter of sincere congratulation, although the results may not always be in the best taste, is that of stained glass. Originally intended as a substitute in some respects for painted walls by those most imaginative and poetical builders who, in the thirteenth century, erected the stupendous and magnificent cathedrals which still adorn Europe; these grand window surfaces, symmetrically divided into admirably proportioned spaces by most elegant tracery, glowed with a chromatic harmony which, for pure translucent splendour, threw all previous efforts at coloured mural decoration completely into shade. And it is worthy of note that the inventors of this new and most wonderful method of at once illuminating and adorning the temples of the Most High God regarded glass as essentially the vehicle for displaying, in exquisitely gradated arrangement of hue and tone, transparent colour. They did not attempt to produce realistic pictures on glass, but wisely contented themselves with developing to the utmost possible degree the special capabilities for the expression of one of beauty's many aspects possessed by the material in which they worked. Externally these cathedrals were enriched by pinnacle, and spire, and flying buttress, and most lovely and intricate tracery, and exhaustless wealth of statuary. Internally they glowed with hues before which those of the rainbow paled. Surely these effects—the dedication of man's best faculties to the honour and glory of his Creator—cannot be considered as impiety. It may not be advisable to attempt to restore our cathedrals to their original condition of decorative perfection, for their historical value might be diminished thereby; but there can certainly be only unmixed good in replacing in windows, wherever possible, that lovely and innocent colour which the mistaken zeal of our puritanical forefathers often so ruthlessly destroyed. Indeed, it is very much to be regretted that a larger portion of the wealth of this enormously wealthy country is not employed in making beautiful what we term places of worship. At present there appears to be, too often, a miserable compromise. A little ornament seems permissible—much is regarded as a sin. Whereas there should be no halting midway. Either beauty in ecclesiastical edifices is criminal, and no building of this kind should be polluted by even the faintest suggestion of those inexhaustible riches of form and colour of which the universe is so full that both heaven and earth declare the glory of God, or man's attempt to illustrate this marvellous diversity of structure and hue should be carried to the highest perfectness of which his endowments will permit. If this problem be rightly solved the great constructive and decorative genius of the age will have a noble and ample field for its development.

These processes upon which I have briefly touched have been among the more important, or general modes of mural decoration, but there are others, such as water glass painting, which may be considered either as a failure, or on its trial; and sgraffito, recently revived at South Kensington, which, if it endure this climate, may, for the decoration of plain spaces of outer walls, prove eminently serviceable. There are also *terra cotta* for exterior work, and leather, with its imitations, paper

hangings, and an infinite variety of tiles for interior mural adornment. Upon these, their several advantages and characteristics, I would willingly dilate did time permit, but I must hasten to the consideration of another material which in English domestic architecture has played a somewhat important part, namely wood. It is impossible to wander among the pleasant vales and shady lanes of our rural districts without admiring the picturesque effect produced in some of our old farmhouses and cottages by the division of their walls into irregular spaces by means of timber. I have here a sketch of one of the rudest specimens, the gable of an old farmhouse near Ripley, Surrey, known as Homewood; and interesting as having been built from the materials of Newark Priory, when it was dismantled in the reign of Henry VIII., the ruins of which stand on the farm land. This, the oldest portion of the house, which in its present state illustrates farm building of three different epochs, seems originally to have been internally merely a large hall, the western end of which was raised by a step, and having a loft or garret of equal size above it. And it differs from all the other old houses in the neighbourhood through the spaces between the timbers being filled in with flint and chalk, of which the Priory was constructed, and which were brought from the downs at some four miles' distance, instead of brick made from the clay in the immediate vicinity. Nothing can be more inartificial than the disposition of the wood in this example, but at the same time it introduces the element of variety, and saves the surface from downright monotonous ugliness. In Great Tangley Manor House, near Guildford, built, or at least altered to its present appearance, in 1583, we have a more determinate form of external mural decoration by means of wood, whilst a design for a timber mansion, which has been kindly lent for the occasion by Mr. Frank E. Thicke, shows that the most beautiful examples of this kind of mural decoration of former times may be equalled, nay, surpassed, now in harmonious arrangement of parts, and the insertion, in appropriate positions, of panels gracefully decorated. In the construction of woodwork for the interiors of buildings English architects and artisans have never been excelled, as the magnificent roofs seen in such halls as Westminster and Eltham testify; whilst wooden panelling, carved or plain, was formerly a very favourite mode of decorating the chambers of the better class of houses. And whilst upon this branch of my subject I may, perhaps, be permitted to say a few words upon a method of decorating wooden panels which I have patented with the title "the Xylographic Process." This, described by me in a Paper which I had the honour of reading before the Society of Arts on December 10, 1873, consists in printing by special methods, and by specially prepared colours, designs upon wood surfaces. The process and the result are, if the most diligent inquiry authorise me to express an opinion, novel; and, however humble this form of art may appear in comparison with those which I have been enumerating, I believe that it will nevertheless be of some utility. By it an elaborate decorative design can be impressed at once, in any colour or colours, upon a panel either of the natural colour, or stained, or painted of any colour; and either rough or smooth in texture, provided only that the thickness of the panel be equal throughout. This thickness may vary according to the use to which the panel is to be applied, but in each panel it must be uniform. The designs thus produced are intended to be used as *frises* and *dados* for the decoration of rooms; also as panels for doors, cabinets, and all articles of furniture in which flat decorated surfaces are employed. A few specimens are shown out of a number produced to thoroughly test the process by Mr. Attfield, a printer, in the employ of Mr. Hooke, of Guildford, and to whom I am greatly indebted for the care and trouble he took to work out successfully under my superintendence a branch of printing which to him was entirely novel, and which, I had been assured by men of great experience, it was, on account of mechanical obstacles, impossible to accomplish.

And now, returning to matters of more import, and admitting, as I believe we do, that beauty of mural decoration is not only an admirable quality in itself, but one which is calculated to develop healthy faculties of those it employs; it is to the practical artisan we must look for perfection and finish, at least in many of the details. In olden times when art, emerging from the gloom of the dark ages, was once more struggling towards light, the artist and the artisan were one. Then art was essentially decorative, that is, not confined in its highest manifestations to movable pictures and statues, but applied to buildings themselves; and the men who exercised this decorative craft were skilled in every detail of their calling. I cannot better exemplify the care they took to learn their business thoroughly than by quoting the old Italian artist Cennino Cennini, whose invaluable record of the art processes employed in his time was written in the year 1437. Here he tells us "in what manner the art of painting pictures should be acquired." And he proceeds: "Know, that you cannot learn to paint in less time than that which I shall name to you. In the first place, you must study drawing for at least one year; then you must remain with a master at the workshop"—note the term workshop, in Italian *bottega*—"for the space of six years at least, that you may learn all the parts and members of the art—to grind colours, to boil down glues, to grind plaster, to acquire the practice of laying grounds on pictures, to work in relief, and to smooth the surface, and to gild; afterwards to practice colouring, to adorn with mordants, paint cloths of gold, and paint on walls, for six more years—drawing without intermission on holidays and workdays—and by this means you will acquire great experience. If you do otherwise you will never attain perfection." Now here is the advice of a man educated in the best art school of his time—a school whose works, still in excellent preservation, are the pride of Italy and the admiration of the world. "I, Cennino," he says, "son of Andrew Cennini, born in the Colle di Valdelsa, was instructed in these arts for twelve years by Agnolo, son of Taddeo, of Florence, my master, who learned the art from Taddeo, his father, the godson of Giotto, whose disciple he had been for twenty-four years."

No relying here upon heaven-born genius merely, but upon genius with a solid basis of sheer hard work. Now-a-days when we wish to spend thousands of pounds on the walls of important edifices, we have a Royal

Commissioners," and "Parliamentary Committees," and "Blue Books," and welch a chaos of conflicting opinions which leaves the last stage of confusion almost worse than the first state of ignorance. No wonder that some of the works commenced under such auspices begin to decay almost before they are completed. No; what we want, if durability in art work is to be secured, is the experience of the skilled art workman; of the man who has not been educated in the studio merely but in the workshop, of the man who not only knows how to design but "to grind colours, to boil down glues, to grind plaster." We want men, if the mural decorations of our edifices are to vie in durability with those of former ages, who have not only mastered the principles which underlie all styles of art, but have also conquered the materials in which these principles are to be embodied. Formerly this mechanical and scientific knowledge were matters of tradition; now, they have too often to be imperfectly acquired by a long course of laborious experiment. There is nothing more certain than that the inventor of oil painting, Van Eyck, in the year 1410, and the great Venetian painters a century later, thoroughly understood the process by which could be obtained not only the most admirable imitation of natural appearances, but also the most complete durability of which the vehicle and materials would admit. There is nothing, so far as the English school is concerned, more curious and in some respects unfortunate than the utter uncertainty, with regard to materials, at least, which seems from first to last to have pervaded the practice of that great master of portraiture Sir Joshua Reynolds; and he would be either a very bold or a very vain man who would assert that he had thoroughly mastered this undoubtedly simple, but essentially scientific, process now. This shows how practical art knowledge, once commonly accepted, may in course of time, die out; and it points to the very great importance of preserving not merely receipts or descriptions in books, but the best methods in actual operation, so that the intellect, the eye, and the hand may work with that harmonious unison which alone can produce excellence in pictorial and plastic art. To such a result an institution like this may eventually greatly contribute. What we want is to forget the word mechanic, and to substitute for it that term of far higher meaning, artisan. Now I should say that men like Cennino Cennini were artisans—artificers—wise-hearted men, as Homer calls them—men who, in scripture phrase, did what their hand found to with their might—men who worked with a belief that what they did would live after them—men who, whatever their shortcomings may have been, had at least the consciousness that they had lived a life of intellectual delight, and not merely grovelled in a Circean sty of sensual pleasure.

I should think that to those interested in art there can scarcely be more delightful reading of its kind than Vasari's biographies of the men, like Cennini, whose labours resuscitated art in Italy. Their perfect unselfish enthusiasm, their intense enjoyment of their work for the work's sake, their thorough determination that what they did should surpass if possible all previous efforts, is almost startling to us in this age of comparative material prosperity when much, even of artistic work, seems done mainly with a view of accumulating wealth. We have heard a great deal about the dignity of labour, and this term may be applied with peculiar aptness to art labour; for there is none other that demands more exquisite skill of hand, or is more calculated to refine the senses by communion with those works of nature which express in the highest degree harmony and beauty. Now an institution such as this, which already possesses technical classes for instruction in carpentry, mechanics, and stained glass, to which others on similar industries will shortly be added, should, and let us hope will, be a centre whence may radiate over the country affiliated branches where artisans will congregate and perfect themselves in the various crafts which enable this country to take so proud a position in the field of labour. "I know of but one art," said that greatest of artists, Michael Angelo, meaning that however various the forms of art may be they have all a common bond of union and are inspired with but one principle. So should it be with those engaged in the various branches of industry, especially of art industry. In this Institute, knowledge, perfected by experience, should be placed within the reach of every artisan who aspires to a position higher than that of a mere mechanic drudge. So far as my information extends the man who is valued and respected by his employers is the skilled workman—the man who can use his head as well as his hands—the man whose mind by contact with other minds has profited by ideas out of his own mere experience or calling, and who, so far, has received what may be termed a liberal education. In an Institute such as this, then, knowledge as regards the practical arts can be communicated, and from it may be disseminated; and in this necessarily imperfect review of some of the most extensively practised methods of mural decoration I have been actuated partly with the view of indicating to the artisan what I believe to be one of the most profitable fields for the exercise of some of his highest faculties, and partly with the hope of eliciting from some of the gentlemen present opinions derived from their experience of artistic methods or processes, and which therefore have practical value.

ELY CATHEDRAL.

ON Tuesday in last week services were held in Ely Cathedral in connection with the dedication of the octagon and central lantern, the adornment of which has been restored and completed from the designs of Mr. Gambier Parry. The following address was delivered by the Bishop of Carlisle on the occasion:—

A very difficult task has been imposed upon me, but one which I willingly undertake to fulfil according to my ability, namely, that of saying a very few words which may be suitable to the occasion which brings us together in Ely Cathedral this evening. I may not waste any of those few words upon introductory matter, but must go at once to the very heart of my subject and speak of the central portion of this noble Minster, which was always beautiful, beautiful even in the very worst period of its history, and more beautiful exceedingly with all the original elegance of structure and all the recent adornments of the painter's skill. This central octagon and the curiously suspended lantern were devised by one whose powers have seldom been surpassed. He was a monk of the Convent, but never-

theless an engineer of conspicuous ability, as anyone who has examined this building will allow, and his taste as an artist was as remarkable as his engineering power, and so it came to pass that when the ancient central tower of our Minster fell down in the fourteenth century, there was an architect on the spot who was able to repair the mischief, and not only to repair it, but to turn the loss into gain, and to make the fall of the central tower the occasion of adding to the building its principal glory. It was thus that this octagon had its birth, and that Ely Cathedral became what it is. But I am led to-day to speak not so much of the octagon and lantern themselves as of their decorations, and I wish you to notice how they were decorated before Mr. Gambier Parry took them in hand. I am not referring to paint or surface colours, but to decorations which are more permanent, decorations of wood and stone. Some of you, I dare say many of you, have perhaps not observed how complete this decoration was, but please to let me explain it to you. If you look up with me to the stone work in the eight corners of the octagon your eyes will come to eight sculptured corbels; they are very elaborately carved, and the carving has escaped injury. They represent the history or some reputed chief events of the history of St. Etheldreda, the foundress of this church. I think it is not facious to regard them as representing the church of Ely and its history and its worship; or to take a little wider view, you may regard them as representing the Church at large, the Church with all its human infirmities, but the Church nevertheless endowed with an inextinguishable life. Raising your eyes a little higher you come to certain sitting figures, there ought to be twelve, and they represent the twelve Apostles. The actual figures which you now see are quite modern, but there is not the smallest doubt that they fairly represent the twelve ancient sitting figures which once were there and are destroyed, and that the twelve ancient figures, like the modern, represented the Apostles. Still further, there are sixteen small stone heads, four connected with each group of three Apostles, which are not very clearly seen, perhaps, from the floor of the Cathedral, but which, when examined, show by the conventional prophetic cap given to them that they are intended to represent the sixteen prophets of the Old Testament. Once more looking over the four great arches, you may see four sitting figures, which represent the four evangelists. These, unlike the Apostles, are the original figures, but restored to their ancient beauty. And so we are carried up from the Church on earth through apostles, prophets, and evangelists to the central and highest figure of all, the Redeemer and Saviour, the King of Kings and Lord of Lords, who is represented by the carved boss, which crowns the entire structure, represented, too, in a very touching manner; if you could see the figure distinctly you would perceive that our Lord appears with his right hand raised in the attitude of blessing, while with his left, He draws aside his robe and shows his wounded side, and so exhibits Himself to us as the great sacrifice for the sins of the world. This was the mediæval architect's conception, and a very noble conception it was. Our great benefactor, Mr. Gambier Parry, has helped us to realise the conception and has added to it. He has added a choir of angels and cherubim to the other worshippers, so that now our choir is more complete than ever it was, and we have men and angels all joining together with one voice to praise Him who sits in glory above and who reigns for ever and ever. This is not the time and I am not to be the man to enter into any elaborate criticism of the work which we this day formally dedicate to God and his services; indeed, if the work be a great work, it will be the gradually formed and slowly matured opinion, rather than the hasty expression of admiration when the charms of artistic skill first burst upon us, that will be truly valuable and worthy of record, but this, I think, at least we may say that these are happy days which possess men willing to devote their time and their skill and their money to the glorification of the House of our God. If ever a work was done with a single eye to the honour of God, I believe that this is such a work, and it is difficult to believe that an offering made in such a spirit will not bear fruit in a variety of ways which we need not even attempt to anticipate. If any one should be disposed to say, "to what purpose was this waste," I would remind such an one of the box of precious ointment which some thought was wasted, but which Christ accepted as a genuine offering for the love of Him. I should be selfish if I spent one moment of my short time in speaking of my own feeling in observing the progress of the Cathedral, so dear to me in days gone by—so dear to me still—dear to me from the thoughts of those who are gone, and dear to me from the thoughts of those who are present; I think I may be permitted to congratulate the City of Ely and still more the Diocese of Ely upon this steady and unchecked progress. One more great work is now completed, and may be taken away from the list of things still to be done; but we have not arrived at the end yet. The ruin of the past has not been fully restored, and there are still great things wanting before Ely Cathedral can be called complete. Seeing what has been done, and remembering what many of us remember, shall we despair of accomplishing even greater things still. But I must bring my short homily to an end. My concluding words shall merely connect the delights which have been prepared for your eyes to-day, with the delights which have been prepared for your ears. I have shown you now that the design of the great architect of this portion of the Cathedral was to set forth the praise of the Messiah. It was originally part of the choir; here for centuries the clerks sang the praises of God and of his Christ, they had above them the representation of apostles, and prophets, and evangelists joining in their strains, and here are we met together with the same accompaniments to-day to hear the praise of the same Messiah set forth in such music as the clerks of old never heard, but which is in happy harmony with the beauty of this building, and with the noble purpose of worship to which it is dedicated. Now, therefore, let the music begin, and let us listen with devotional solemnity while the genius of Handel carries our souls from the first comforting words concerning the Messiah spoken by the prophet, to the last solemn words of revelation which declare Him to be King of Kings and Lord of Lords.

The day following a large party of visitors inspected the cathedral under the guidance of Sir Gilbert Scott, R.A., Archdeacon Emery, and Mr. R. R.

Rowe, the cathedral surveyor, when by the aid of a model and drawings the lantern was described. Sir Gilbert Scott explained the history and construction of the octagon, and the following description of the decoration was read by Archdeacon Emery:—

The internal repair of the lantern and octagon was begun in February, 1874, and has required a year for its completion. The ornamentation is in the style of the fourteenth century, and has been carried out with loving care and artistic skill, under the direction of Mr. Gambier Parry, who designed the whole, and painted the chief figures. The central boss of the lantern groining is a half length figure of Christ in glory, considerably above life size, and with the conventional clouding around it; it is boldly carved in oak. The right hand is raised in the attitude of blessing, and with the left the inner garment is drawn open to exhibit the wound in the right side. Around this figure is painted a galaxy of seraphim on a grey-blue ground. The panels of the window hoods are painted red, marking the distinction already made by the architectural construction, and on them are painted cherubim and golden stars. The windows of the lantern were filled, some years ago, with coloured glass, in memory of the late Dean Peacock. The colouring of these windows is harsh and in strong contrast with the mellow and rich painting of the woodwork, and very injurious to the general effect.

Below the windows are 32 openings surmounted with rich tracery. They are filled by panels on which is painted an angel choir. The figures are composed in groups of four, under each window, and are represented playing mediæval instruments. The two eastern and two western bays are intended to be severally grouped together, forming distinct series of eight figures grouped together. The instruments in the hands of the figures over the transepts are the psaltery and cithern, the regale, tabret, lute, violin, bagpipe, and trumpets. Below this range of figures are smaller panels, simply ornamented with the monogram, the cross, and the crown, resting on a fine and richly carved cornice, which forms the base of the lantern. The groining of the octagon forms eight hoods, four above the windows and four above the great arches of the choir, nave, and transepts. Beneath these last are remarkable statues of the four evangelists, about life size, seated in the attitude of writing, with a pen in one hand and a long scroll in the other. A writing table by the side of each figure with the ink-horn attached to it by a strap, and another loop to hold the pen, is very complete. The space between the great arch and the groining of the choir is filled with rich tracery, on the central point of which is painted the crucifixion, with angels, holding the chalice and palm branch on the right and left. The long spandrels of the groining are painted with conventional scrollage of leaves and flowers in a style contemporaneous with the architecture. The monogram and crown of St. Etheldreda are found in several parts of the ornamental design. There were little or no available precedents for colouring found to guide the present work, when the woodwork of the lantern and octagon was cleared of whitewash. Some remnants of red and blue were found in the hollows of mouldings, but exhibiting no principles of artistic arrangement. There was no ornamental coloured design anywhere, unless the sham gothic tracery on a green ground, which covered part of the octagon groining could be considered as such. The greater part of this being weak modern work was not thought worthy of repetition. An account of the painting of the whole of the woodwork, the colours used, and their prices, the names and wages of the chief workman, "Walter Pictor," we found among the archives of the Cathedral. To judge by the colours, the work must have been very rich. There were vermilion or piment, azure, verdigris, cynoper or dragon blood, red lead, white lead, gold colour, and silver and gold leaf. His work was executed between the years 1335 and 1346. His wages were eight pence per week—"propter mensam et Probam." Oil is mentioned as specially purchased—"pro color: temperand." And solution of parchment was used as size—"pro dictis voltis depingend: cum le chipital et le bosciz (bossez) deaurand: ex conventione 10l."

In the afternoon a public meeting was held in the South Transept to consider the steps necessary to be taken in order to complete the restoration of the Cathedral.

The DEAN of ELY said—Last year I stated that I expected that the chapter would become liable for a sum of about 1,000*l.* beyond the funds which the munificence of the Duke of Bedford and others had provided for them, but I added that the generous offer of Mr. Gambier Parry to execute the painting as a voluntary gift was too valuable to be set aside, and it was impossible to postpone the decoration and the outlay necessarily connected with it. Upon full examination the decay of the woodwork of the dome was found to be very extensive, and even if it had not been determined to decorate it, the necessary repair could not have been long deferred. These repairs have cost at least 500*l.* The scaffolding which was required for this work involved the use and purchase of a very large amount of timber, and added an item of several hundreds to the expenses incurred. The paint, gilding, and labour employed in the decoration amounted to about 1,000*l.* To these charges were to be added the bills of the ironmonger and mason, and of course, heaviest of all, those of the carpenter for the wages of men employed almost incessantly for a period of twelve months. The result is, the whole cost amounts to about 2,550*l.* To meet this we have had 1,400*l.*, and the deficit is just 150*l.* more than that which I anticipated a year ago. Now this liability falls, of course, upon the Chapter, and they must take means to discharge it, which they can and will do in the course of time; but in doing so they must look to the staying the further restoration of the Cathedral for some years to come. Meanwhile there are other portions of the fabric which call aloud both for repair and for decoration, even if the rebuilding of the great west front be thought—as for myself, I confess, I think it is—too grand an undertaking for the present time. You see before you how unworthy the present dilapidated pavement of the octagon is of all the glorious work around it and above it; the façade of the east end of the Cathedral is incomplete and out of repair; the exterior of the octagon itself was either left unfinished or

has been partly ruined. These and other objects call, as I say, loudly for effective but progressive restoration.

Sir GILBERT SCOTT fully concurred in the desirableness of first relieving the Dean and Chapter of their obligations before commencing any new great work. He might describe a portion of that work as of the first importance, and the remainder as of minor importance. It would not be prudent, however, to postpone the minor matters till the others were carried out, and he would suggest that a great portion of the former, if not all of it, could be done by individual benefactors apart from the general fund. For instance, among the minor matters, were the eight pinnacles upon the octagon, which might be restored each by one gentleman, and then there was the paving and other comparatively small matters, which might easily be done in the way that he had suggested. But he would press earnestly upon their attention as of the first importance the restoration of the west front. It must strike every one as being incomplete, and disappointing—disappointing on account of its own magnificence, and on account of one wing being wholly omitted. That that wing once existed was provable by the remains, and there could be no doubt, though there was no record of it, that it had fallen down. It had remained for two or three centuries a discredit to the building, and calling loudly for restoration. It was the most glorious work that could be undertaken for the Cathedral, and he suggested that it should be proceeded with as the funds came to hand. He should not care how slow they proceeded, but if they waited till they got funds in hand to complete the whole before commencing, the strong probability was that they would not get it done at all. The work should go on *pari passu* with other works. His excellent colleague, Mr. Rowe, concurred in the suggestion that the work should be proceeded with as the funds came in, and he had also made a suggestion as to the manner in which the contract should be entered into. He (Sir Gilbert) would give them 20 years to do the work, but if he gave them 20 years, he believed it would be done in 10.

The Bishop of CARLISLE said that Sir Gilbert Scott had almost carried them away by the prospect he had put before them of having the north-west transept rebuilt. There was one work with respect to the lantern, the completion of which he looked forward to with great interest. It was never intended the lantern should be exposed in the way it was, but that it should be in a kind of network. There were eight pinnacles and four small ones, and there was a complicated balustrade between them. The work of completing them had been estimated some time ago at 3,000*l.*; in the present state of the labour and other markets the cost would probably be at least 4,000*l.*, a very considerable work, which ought not to be put on one side, but ought to be considered the most pressing of all the works. In conclusion the Bishop made an appeal to the gentlemen present to supply the three figures of the sitting apostles.

The result of the appeal was that Sir Gilbert Scott, Canon Underwood, and Captain Horton intimated that they would supply a figure each.

THE COST OF BOARD SCHOOLS.

A PARLIAMENTARY return has been published this week which furnishes a large amount of statistics with reference to the working of the new Education Act. From this it appears that the total expenditure on school buildings sanctioned by the Education Department has reached the immense sum of 4,021,418*l.* 5*s.* 8*d.*, being thus apportioned: for school sites, 740,490*l.* 13*s.* 5*d.*; for premises, 2,798,866*l.* 19*s.*; and for sites and premises, 482,060*l.* 13*s.* 3*d.*

The growth of the new organisation may be judged from the following figures showing the annual expenditure to Michaelmas, 1874:—

	Purchase of Land	Erection of and Additions and Alterations to School Buildings	Repairs to Buildings	Interest on Loans	Accommodation
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	No.
1871 ..	570 0 0	0 0 0	280 5 1	10 0 0	
1872 ..	97,577 11 3	24,283 12 4	3,576 14 6	44 1 4	17,156
1873 ..	323,875 17 4	533,406 10 8	10,405 6 0	4,189 19 0	125,053
1874 ..	265,703 3 4	1,075,086 6 11	9,436 19 8	37,269 16 5	245,506

One of the tables supplies the following as the estimated cost of school buildings per child accommodated in the towns named:—

TOWN	COST PER CHILD		TOWN	COST PER CHILD	
	Buildings (only)	Site and Buildings		Buildings (only)	Site and Buildings
London	£ 10 7 9½	£ 15 7 2½	Leeds	£ 9 5 1½	£ 11 0 1½
Liverpool	10 9 3½	12 10 0½	Brighton	8 15 1½	12 3 8½
Manchester	9 11 2½	13 2 1½	Bradford	17 7 10½	23 14 0
Birmingham	9 4 0½	11 9 1½	Huddersfield	10 9 9½	12 16 0
Bristol	6 13 6½	7 15 0½	Leicester	7 15 4	9 19 6½
Newcastle	11 5 8	12 13 2½	Halifax	9 18 6½	11 16 0½
Sheffield	7 19 2	9 14 2½	Nottingham ..	7 16 6½	9 12 10

The Town Council of Vienna will shortly decide about the employment of the loan of 3,700,000*l.* made for public works. 1,300,000*l.* has already been spent; an expenditure of 250,000*l.* is contemplated for market halls for the central cattle market; 350,000*l.* for opening and widening streets; 800,000*l.* for the new Town-hall in course of construction on the old parade-ground; 400,000*l.* for the building of schools; 1,120,000*l.* is still required to complete the waterworks, 150,000*l.* for the Central Cemetery at Siemering, and 120,000*l.* for the public baths in the new Danube.

ST. LIZIER.

(See Illustration.)

THIS, which is to-day the small chef-lieu of a canton in Ariège, was during many centuries an important town and a bishop's see. It existed when CÆSAR conquered Gaul. The date of its first foundation is unknown. The tribe of the Consorani, whose capital it was, held the lands at the foot of the Pyrenees, on the right bank of the Garonne and along the Salat. It has been supposed that as the Convenæ were ordered by POMPEY to found Lugdunum Convenarum, so the Consorani were obliged by him to form a state. Under the first Roman Emperors "Civitas Consoranorum—Conсорanica—or Consoranensis" flourished. It extended east and north along the Salat. JANUS, JUNO and VENUS were its especial deities. MINERVA also had a temple under the name of "Belisama." JUPITER's sanctuary was outside the town on the "Mons Jovia." Under THEODORE the town of the Consorani held the fifth place among the twelve cities of Novempopulania, and it is said that remains of the old capitol named Austria can be still traced on the highest ground. The town and surrounding district afterwards passed under the rule of the Visigoths, when WALLIA established himself in the South of France (418).

It is doubtful when Christianity was first preached in the Conserans, but VALERIUS is said to have been the first bishop, and to have been living about A.D. 450. GREGORY, of Tours, however, who recounts how his tomb was discovered by his (97. second) successor THEODORUS, in 549, speaks as though his date had been more distant. We may here remark that among the early dates given for the foundation of churches the least ancient is generally the most correct, and this for obvious reasons.

In 507 we find the Novempopulania under the dominion of the Franks, and four years later Conserans was apportioned to CHILDEBERT I. CHILDEBERT II., "Rex Austrasiæ," acquired it by the treaty of Andelot (587).

St. LIZIER lived shortly after this time, it is not known exactly at what date; but his occupation of the see lasted during 44 years. Some say his episcopate was in the middle of the seventh century, and they thus make it coincide with the incursion of the Visigoths under RECESWINTH or RICOSINDE. St. LIZIER is said to have caused the latter to raise the siege of the town by appearing to him in a dream. If St. LIZIER were contemporary with CHARLES MARTEL, as some say, his appearing to RECESWINTH is an unique instance, so far as I know, of a saint taking part in mundane matters prior to his birth. M. de St. PAUL, however (from whose writings I have gleaned most of the facts stated in this essay), is of opinion that St. LIZIER lived about A.D. 600.

According to the "Conserans Ecclesiastique," CHARLEMAGNE gave to the bishop, FRANCOLIN, the title of count of the district, and made the Counts of Comminges his vassals, in so far as the feof of St. Giron was concerned. In the twelfth and thirteenth centuries, the bishops, having grown weaker, ceded to the Lords of Comminges some portion of their town—and, in fact, in 1120, we find one of the latter (whose jealousy may have been roused by having been made vassals of the see of Conserans), seizing by surprise the town of St. Lizier and ruling the inhabitants with great severity. The donjon at present existing may have been built at this time. Yet in deeds dated 1170-1466-1481-1521-1530, the Counts of Comminges still render homage to the bishops.

The diocese of Conserans contained originally about 82 parishes; in the sixteenth century the number was reduced to 72, and later on to 63. All the district between the Garonne, Foix, and the Pyrenees had been under rule of these bishops; but when Pamiers was made a see in 1296, Rieux in 1317, and Mirepoix in 1318, they were deprived of many of their circumjacent possessions. Among the prelates who successively held the see, mention may be made of NAVARRE, who in 1207 was on the Council of SIMON DE MONTFORT; of HECTOR d'OSUN, who in 1570, during the religious wars, put to flight the heretics, though not before they had done much damage; and of DOMINIQUE DE LARTIC, the last bishop of Conserans, who, after having assisted at the last meetings of the states-general, fled to Germany and died there.

The church (a sketch of which is published herewith) is one of two cathedrals that St. Lizier possessed all through the middle ages up to the seventeenth century. In 549 Bishop THEODORUS, having built a vast basilick over the grave of St. VALIER, established there half his chapter to sing the mass. This cathedral was most probably ruined by the Molesma. In 1117 Bishop JOURDAIN consecrated the Church of St. Lizier. The eastern apses may be of this date, or even older. That in the centre appears to have been built with remains of classic buildings; and it is on record that in 1770 a head of JANUS, double-faced, was found in an altar that was being removed. Now the present high altar dates from 1770, so that in all probability this was the position of the destroyed altar, and the discovery would favour the supposition that this portion of the church was built shortly after the establishment of the Christian religion. The cloister on the south side of the nave and the lower portion of the wall against which it abuts are Romanesque. This cloister is rectangular, its longer sides of ten bays each being nearly 80 feet in length, while its shorter sides of six bays each are 60 feet long. The shafts are alternately single and double as at Moissac. An upper storey was

added in brick in the sixteenth century. There is an elaborate north doorway to the church in moulded brick, and near it on the wall the date 1565 is engraved. If this be the date of the doorway it is most probably also that of the nave groining, which is of brick, and of the central tower; though all this work has more the appearance of being a century and a half earlier. In the belfry is a small bell with the legend:—

+ XPS REX VENIT IN PACE ET HOMO FACTUS EST : 1025.

We find another church first mentioned in 1243 under the title of Sancta Maria de Sede. This, the existing church of Notre Dame (which is now the chapel of the asylum for lunatics) is of the fourteenth century, greatly rebuilt by the bishop JEAN d' AULA (1476-1515). It is much smaller than the old church of St. Lizier, but from its foundation appears to have been considered a fellow cathedral with it, half of the chapter being allotted to each church. In 1657, under BERNARD DE MARMIESSE, the whole chapter was moved to Notre Dame, which continued the recognised cathedral from that date till the Revolution. It probably owed its preferment to its being nearer the bishop's palace, and also in the citadel.

St. Lizier has other architectural antiquities besides those that are ecclesiastical—among which may be mentioned the town walls, the lower part of which is of Roman work, and is from 10 to 15 feet in thickness, the upper part was added during the middle ages.

The steep and narrow bridge (its total width is only 14 feet) over the Salat has the appearance of great age, and a Roman inscription to MINERVA is still to be read on one of the stones. The date on the keystone is 1690, with the mitre and arms of GABRIEL DE SAINT ESTEVAIN, most probably the bridge was only repaired at this date. It has three piers, with pointed buttresses both up and down the stream, which is here but a mountain torrent, whose bed is full of rocks, and which at times rises to a great height. On one of the piers a gateway once stood. This bridge much resembles that over Hérault, near St. Guilhem du Desert, which is said on good authority to have been built between 1025 and 1050.

The town also has some picturesque houses, one or two of which are shown in the sketch, but perhaps enough has been said to persuade the tourist who finds himself at St. Giron (where there is not much to see) to take half-an-hour's walk along the Salat and visit St. Lizier.

F. C. DESHON.

EDINBURGH CITY IMPROVEMENTS.

THE *Scotsman* says that in the course of the present season will be carried out another important section of the scheme of improvement authorised by the Act of 1867. The object in this instance is the opening out of two populous neighbourhoods, not so much with a view to the improvement of traffic facilities—though that result, too, will be incidentally attained—as for the purpose of admitting air and light into districts where neither has hitherto been so plentiful as it should be. Readers familiar with the South Side will remember the Potterrow as one of the narrowest and most unsavoury streets to be found in that quarter of the city. What is now contemplated is not the widening of this contracted thoroughfare—an operation whose expense would hardly have been justified by any necessity for improved communication in that particular line—but the cutting of it across by a new street of sufficient width to permit the east and west winds materially to improve its ventilation. At present there is access from Nicolson Square to Alison Square, which opens upon Potterrow, by means of an archway carried under a block of dwelling-houses. This block it is proposed to remove, thus bringing Alison Square into full view from Nicolson Street, with the result, it may be hoped, of effecting some improvement on its rather squalid appearance. Then, on the west side of Potterrow, in a line with Alison Square, an opening of corresponding width is to be carried right through to Bristo Street, debouching opposite the north end of Charles Street. In this way there will be formed, between Nicolson Square on the east and Bristo Street on the west, a 70 feet thoroughfare, which cannot fail to be largely taken advantage of as the most direct route from certain parts of Nicolson Street to George Square and Lauriston. The property which will require to be taken down is, for the most part, of a decidedly inferior character. The houses in Alison Square are not to be interfered with, and the block at the west end of Nicolson Square will be removed only to the extent required for the formation of the new carriageway and footways. In the western section of the new street, however—that, namely, between Potterrow and Bristo Street—the Trustees will have feuing ground to dispose of. The site on the south side is understood to have been fixed upon for the schools which the School Board proposes to erect in this quarter; and on the north side the feus will be available for shops and dwelling-houses, but as yet the elevation for these buildings has not been designed. The other district now about to be dealt with is that lying between Simon Square and East Crosscauseway. The least end of Simon Square is closely contiguous to Davie Street, but between the two there thrusts itself a wretched-looking tenement of dwelling-houses, leaving only a narrow footway as the means of communication. By the removal of this block Simon Square will become a continuation of Davie Street; and a still greater improvement will be the pulling down of certain rubbishy buildings at the opposite end of the square, so as to form a thirty-five feet street, in the line of Crooked Dykes, emerging upon East Crosscauseway, a little to the east of Kennedy's Close. This undertaking does not involve any plan of reconstruction, the probability being that the small portion of the ground, which may remain at the disposal of the Trustees, will be taken up for business purposes by a neighbouring firm. The property required for these various clearances has all been purchased by the Trustees, and the process of demolition will be forthwith commenced.

ILLUSTRATIONS.

REREDOS, ETC., ST. JOHN'S, BOVNY TRAOBY.

WE give this week an interior elevation of the east end of the chancel of the above Church, which has lately received various improvements at the hands of Mr. CHARLES F. HANSOM, architect, of Clifton.

They consist, in the first place, of a new reredos in Caen stone, with sculptured panels, by BOULTON, of Cheltenham, illustrating the first and last scenes in Our Lord's life upon earth—the Nativity and Ascension; while in the centre is a group of adoring angels. These groups are surmounted by deeply moulded and crocketed canopies, enriched with sculptured angels, &c.

On either side of the reredos the eastern wall of the Church is occupied by four panels of very fine glass mosaics, by SALVIATI, representing angels swinging censers—the figures being in colours, on a gold ground.

The lower portions of wall are lined with Majolica tiles of a deep rich colour, forming an excellent groundwork.

The window is by HARDMAN & Co., of Birmingham, and is one of their best works. It represents Our Lord enthroned in glory, surrounded by His saints and angels.

The niches contain figures—on one side of the patron, St. John, and on the other of the Blessed Virgin bearing in her arms the infant Saviour. These have yet to be added to complete the design.

"MAISONNETTE," EAST SHEEN.

THIS house, of one view of which we this week give an illustration, has been recently erected for Mr. F. W. CATT, at East Sheen, near to the entrance to Richmond Park. It is pleasantly situated in its own grounds of about two acres, approached by a carriage drive, with entrance gates and lodge. The fall in the ground has permitted of the formation of a basement appropriated to cellarage and boiler place, &c.; also of the formation of a terrace on the east and south sides, with flights of stone steps leading down to the croquet lawn and garden, and from which pleasant views of the surrounding scenery are obtainable.

White bricks for facings have been adopted, relieved with red bricks, and Bath stone dressings. "Pethers" pressed bricks have been introduced into the strings and window arches for the purpose of ornamentation. The roofs are covered with red tiles.

The house, which has been designed with the utmost regard to convenience and economy of space, contains a wide entrance hall and principal staircase, communicating with dining-room, drawing-room, and library; also a gentleman's room near the entrance. The conservatory is approached from the hall, both being floored with encaustic tiles from the Poole Pottery Company. The kitchen offices adjoin on the ground floor.

The first or chamber floor contains bed and dressing rooms; also a commodious bath room supplied with hot water upon a circulating system in connection with the kitchen range.

There is a spacious attic storey over, approached by a separate or secondary staircase.

The stable buildings contain a three-stall stable, double coach-house, with harness room and loft over, adjoining which is the lodge and entrance gates, finished off externally so as to correspond with the house.

The builders were Messrs. COOKE & GREEN, of Marlboro' Street, Blackfriars. The cost, including all fittings, boundary walls, &c., was 2,900*l*.

The architect is Mr. R. H. BURDEN, of 307 Oxford Street, W.

HOUSE AND STUDIO.

THE accompanying illustration shows a house and studio which was recently erected in Steele's Road, Haverstock Hill, for Mr. G. G. KILBURN, by Messrs. LINZELL & SON, builders, of Tottenham, from the designs of Messrs. BATTERSBURY & HUXLEY, of 25 Great James Street, at a cost of about 1,850*l*. The arrangement is sufficiently explained by the plan.

MEDALLIC ART.

THE Deputy Master of the Mint, having to refer in his Annual Report for 1874, which was published during the week, to the medals which have been issued to the troops that took part in the Ashantee War, takes the opportunity of tracing briefly the phases through which the art of the medallist has passed in this and other countries since the Middle Ages.

According to Pinkerton,* no medals appear in any country in Europe till the fifteenth century, with the exception of the gold medals of David II. issued in Scotland between 1330 and 1370; but as early as 1439 mention is made of a gold medal of the Council of Florence, and from that time the art continued to flourish in Italy. The medals of this period were modelled in wax and cast in fine sand, and were afterwards, in some cases, finished with the graving tool. The most beautiful series are the Papal medals, commencing in the pontificate of Paul II. (1464), many of which were designed by Raphael, Giulio Romano, Francia, Cellini, and other great

artists. From the close of the fifteenth century medals were struck, instead of cast, and greater finish of workmanship was no doubt thereby attained.

Next to Italy, France was the country most remarkable for medals, but the French medals were neither fine nor numerous until the reign of Louis XIV., which produced many works of good design and execution.

The oldest known English medal bears date 1480, and is the work of an Italian artist, but in the reign of Henry VIII. medals were still uncommon in this country. Several examples, however, are extant of medals struck in the reign of Queen Mary, and of these one of the best is that by Trezzo of the Queen herself, a copy of which is in the British Museum. In the reign of Elizabeth many medals were struck, but none which deserve special mention, except one to commemorate the defeat of the Spanish Armada, bearing the device of a fleet scattered by the winds, and the legend "Afflavit Deus, et dissipati sunt." This, however, is not extant. Medals became numerous in the reign of Charles I., whose artistic tastes are well known. In this reign, and subsequently under the Commonwealth, the works of Thomas Simon, the greatest of English medallists, form an important era in the history of medals. After these no remarkable medals occur till the reign of Queen Anne, in which a series appeared commemorating the victories of Marlborough. In the medals of succeeding reigns the style gradually tended towards a revival of Roman types, and this style has survived, with few exceptions, until within a comparatively recent period. As an instance may be mentioned the Crimean war medal, the reverse of which represents Victory crowning a warrior equipped in Roman armour. The Napoleonic medals are pseudo-classic in design, but are generally creditable to French art. One of the most successful imitations of Greek art is a small head of Queen Caroline, beautifully modelled by Pistrucci, chief medallist of the Mint from 1827 to 1851. The numerous medals of William Wyon, R.A., the late engraver to the Mint, are well known, and some of them have much merit.

In the latest English medals, such as those annually given since 1870 to the best shot in the army, as well as those now in issue to the Ashantee troops, an attempt has been made to give good examples of contemporaneous English art. With this view, the designs for the reverse of both medals were entrusted to Mr. E. J. Poynter, A.R.A., the obverse, bearing the effigy of Her Majesty, being in each case the work of Mr. Leonard Wyon, engraver of the Mint, by whom also the dies for both medals were engraved.

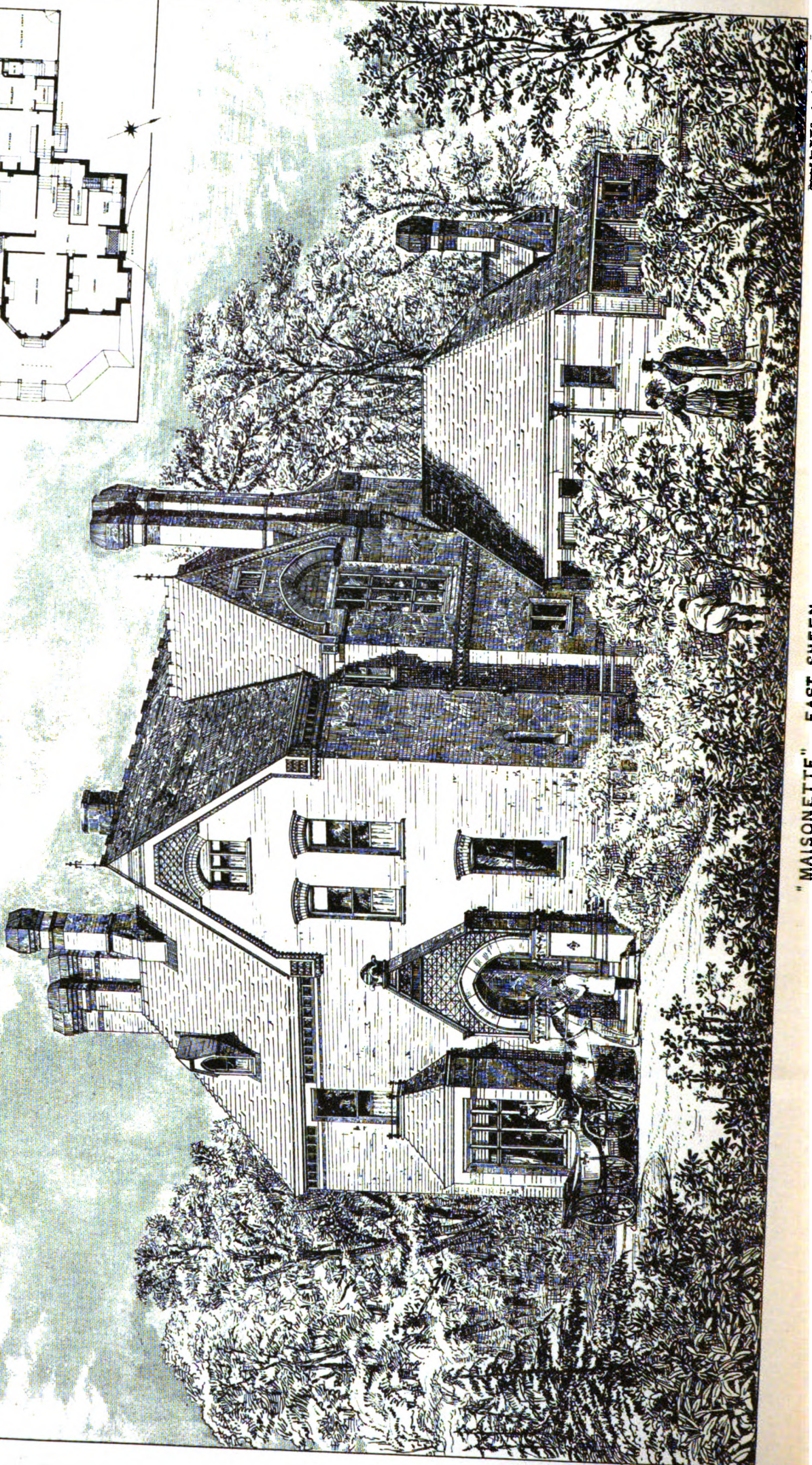
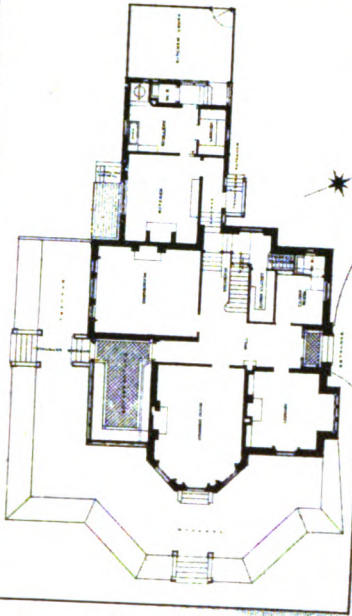
Addison, in his "Dialogues upon the Usefulness of Ancient Medals," published in 1726, observes:—"We ought to look on medals as so many monuments consigned over to eternity, that may possibly last when all other memorials of the same age are worn out or lost," and pleads that medals shall represent, as accurately as may be, the dress and customs of the time of their issue. Evelyn contends also, in his "Discourse of Medals," for accuracy in portraiture and types of race, as of great importance from an ethnological point of view, and urges that medals should be truthful in these respects. In the design for the "Best Shot" medal it was impossible, owing to differences of uniform, to adopt a dress common to the whole army, and it was necessary, therefore, to treat the subject allegorically; but in the case of the Ashantee medal care was taken to represent the actual conditions under which the war was conducted and the garb of the combatants on each side.

PALESTINE EXPLORATION.

ACCORDING to the report read at the annual meeting of the Palestine Exploration Fund, nearly the whole of the south country, including Philistia, is now completely triangulated. Since the last anniversary meeting, 1,600 square miles had been added to the map. The survey had not been confined, however, to map making. Among the more important identifications arrived at or confirmed by Lieutenant Conder are those of the hill of Hachilah, the rock of Maon, Zanoah, Aral, Maarath, Chozeha, Beth, Zetho, the Levitical city of Debir, the Cave of Adullam, the tower of Ader, the forest of Hareth, the wood of Ziph, the altar of Ed, the ford of Bethabara, &c. During the spring alone 1,000 square miles have been surveyed, and 1,067 local names—a very large number of them previously unknown—have been collected. In his last letter, Lieutenant Conder reports thirty new identifications, although it must be understood that this kind of investigation is over and above the real work of Lieutenants Conder and Kitchener, which is the great map of Palestine. Two of the most valuable discoveries of the year are due to M. Clement Ganneau. The first is that of the boundary of Gezer. He had found *in situ*, and, absolutely for the first time, the actual inscriptions which marked the limits of a Levitical city. There are two of these carved on the rock, in Greek and square Hebrew, pointing, probably, to the time of the Maccabees. They contain the word Gezer precisely as written in the Bible. Casts of the inscriptions have been sent to England, and a full account of the discovery will be found in M. Ganneau's new book, which may be looked for this autumn. The fact that the place is still called Tell Jezer is a further illustration of the vitality of the Bible names. The second discovery is that of the city of Adullam. The name had been found and the place visited by M. Ganneau in 1871, and again in 1874. It was first mentioned in Captain Burton's "Unexplored Syria." Lieutenant Conder has now, acting on M. Ganneau's information, visited and examined the site in the course of the survey. The identification of Ed, mentioned but once in the Bible, but belonging to the earliest Hebrew history, was next adverted to. The total area already surveyed is 4,430 square miles, leaving 1,500 to be still filled in, to which must be added the reconnaissance of the Negeb, or south country, to complete the survey of Western Palestine. It is confidently reported that a map of the whole country this side of Jordan will be brought to England in the autumn of 1876 and given to the world a year later, on a scale of an inch to the mile. The total income of the Fund last year was 4,179*l*. 18*s*. 11*d*. The cost of the expeditions in Palestine has been 3,500*l*, and the heavy debt with which the year commenced has been already cleared off.

* "Essay on Medals" (London, 1789).

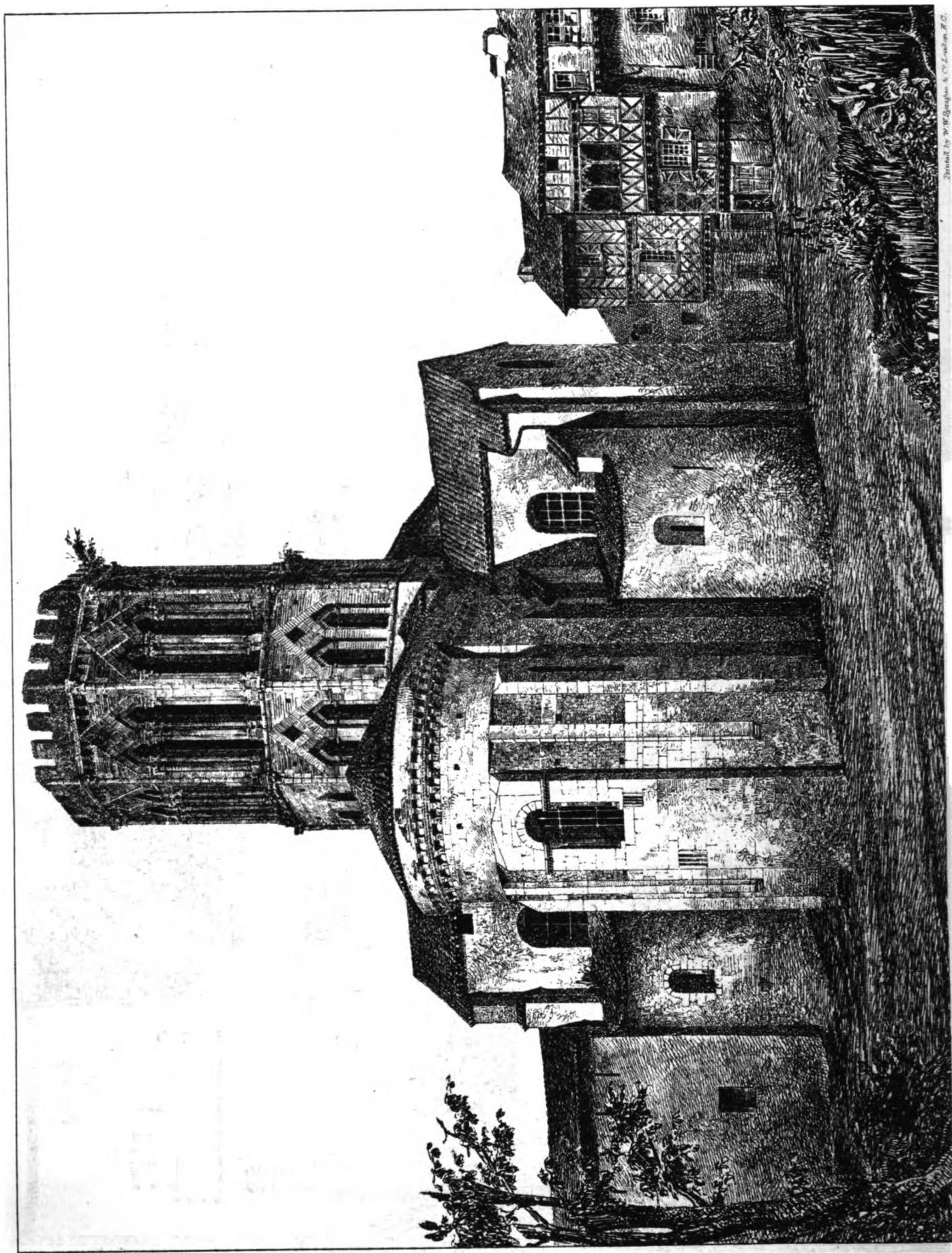




"MAISONNETTE" EAST SHEEN.
R. H. BURDEN, ARCHITECT

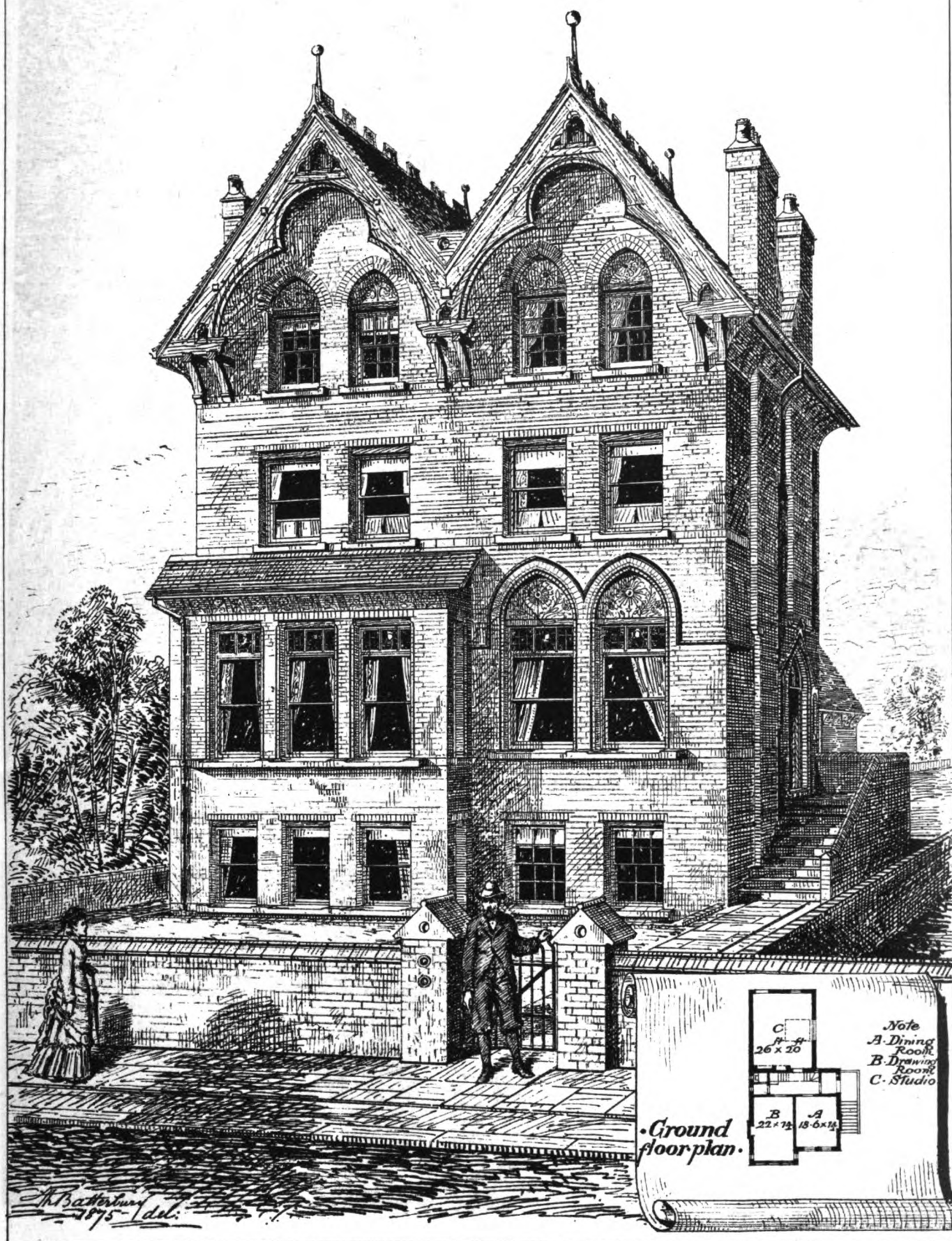
Designed by W. W. Burghes & C. F. Landrum, Jr. C.





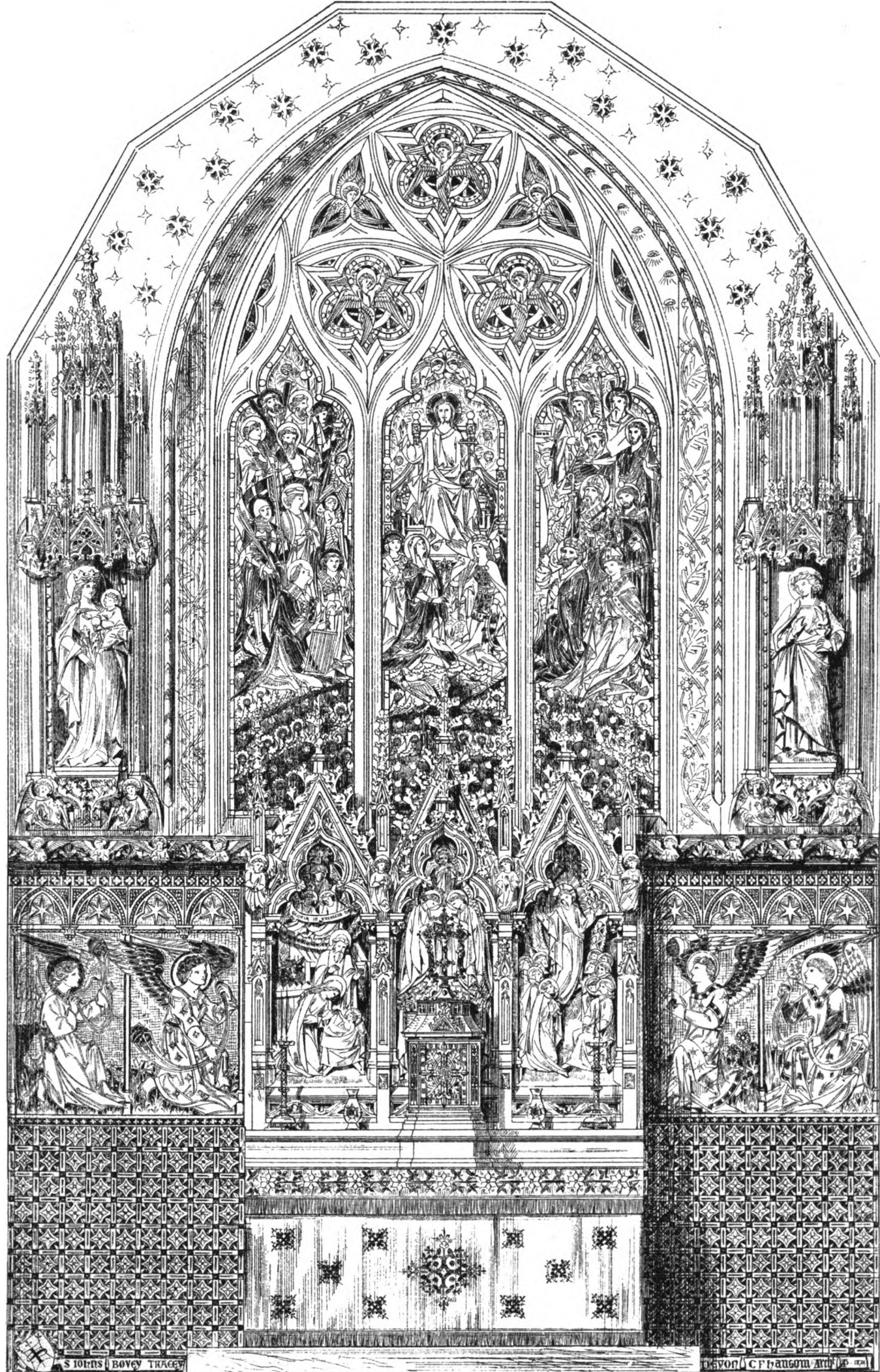
CATHEDRAL CHURCH, ST. LIZIER.
DRAWN BY F. C. DESHON

Printed by W. W. Gifford & Co. London, E.C.



HOUSE & STUDIO, STEELE'S ROAD, HAVERSTOCK HILL, FOR G.C. KILBURNE ESQ.
 MESSRS BATTERBURY & HUXLEY ARCHITECTS.





Printed by W. W. Spangham & Co. London E.C.



THE ARCHITECTURAL ASSOCIATION.

At the ordinary meeting held on June 11, Mr. G. H. Birch, President, in the chair, Messrs. W. Earle, W. Jacques, and G. R. Desgrane were elected members. Referring to a recent visit paid to the floating and swimming baths at Charing Cross, the chairman moved a vote of thanks to Mr. Perrott, the engineer, for his personal attendance and explanations on the occasion, also to Mr. Croad, clerk to the London School Board, for permitting the members to go over the offices of the Board on the Thames Embankment. The motion was duly carried.

The Chairman stated that about a month ago a question was asked respecting the proposed fusion of the Institute and the Association. The subject was then under consideration by a committee appointed for the purpose, and he would now ask the secretary to read the report of the committee.

Mr. S. Flint Clarkson accordingly read the following report, entitled "Message from the Committee of the Architectural Association to the ordinary meeting":—

The question of the possibility or advantage of a fusion between the R.I.B.A. and this Association now brought under the notice of your committee, when they were informed that the special committee on the affairs of the Institute had appointed a sub-committee to confer with a sub-committee of the Association on the subject, a sub-committee of members of the Association was accordingly appointed, and the sub-committee have met and conferred.

The following report dealing with the questions referred to them by your committee has been furnished by the sub-committee. In submitting it to the members of the Association your committee desire to express their general approval of its contents, and to state that they wish to co-operate with the Institute in every possible way—keeping clear of any attempt to rival that body. It will always be their endeavour to induce the senior members of the Association to become members of the Institute.

Report of sub-committee of the Architectural Association appointed to consult with the sub-committee of the Royal Institute of British Architects, and to consider the relative position of the two societies.

To the Committee of the Architectural Association,—

Gentlemen,—We beg to report the result of our consideration on the subjects referred to us by the committee in the resolution of April 16, 1875.

First, with reference to the suggested fusion of the R.I.B.A. and the Association.

We have taken into consideration the scheme suggested by Mr. T. Chaffield Clarke, which has been already reported to the committee of the Association, and it does not appear to us that such a fusion would be either desirable or possible. We consider that it would imperil the usefulness of the Association owing to the control under which its work would be carried on, and so radical a change in its constitution might paralyse its energy for years. We cannot recommend the members to part with their present independence of action, in which we recognise one of the means by which the Association has attained such great success.

We are fully aware of the advantage that would be gained by a joint and unanimous action of the whole profession in securing and maintaining professional status, awarding honours, promoting education, and accumulating the results of study and experience; but such united action does not at present appear possible, and it is unnecessary to speculate as to the future.

Secondly, with reference to the question referred to us, whether a scheme on the basis of co-operation, rather than fusion, is worthy of consideration.

We are of opinion that there is no desire on the part of the Association to stand apart from any action by the profession or of the Institute in which the Association can render any assistance; nor do we anticipate any such disposition in the future. The relation between the two societies is quite free from any antagonism or rivalry. Still, as each society has, and should keep to, its special sphere of action, co-operation could only take place in such matters as:—

A. An interchange of invitations by which members of either society would be at liberty to attend lectures, or other general meetings of both societies,—and, occasionally, joint meetings of the two societies might be held for the discussion of suitable subjects.

B. The abandonment by the Institute of its class of students, the Association being recognised in the place of the same, and assisted by such influence and privileges as the Institute can give to it.

C. The joint use of the Libraries by the members of both societies—that of the Institute for reference and that of the Association for circulation—with such arrangements as would secure the extension and best use of each.

D. Joint action on the part of the two societies in order to obtain a better system as to awarding prizes.

Other similar modes of co-operation might be suggested which could be carried out without injuriously affecting the independent existence of either society, but any attempt to obtain an official connection between the two societies would not materially assist either, whilst there might be danger of the less powerful being injuriously controlled, or of a collision of opinions or interests.

We are, gentlemen, yours faithfully,

GEORGE H. BIRCH, FLINT S. CLARKSON,
JOHN S. QUILTER, EDWARD G. HAYES.
BOWES A. PAICE,

June 4, 1875.

Mr. E. J. Tarver said he thought it was scarcely worth while to offer any remarks upon the report, but there seemed to be an inconsistency in it, for although the Association declined the proposal for a fusion with the Institute the Committee stated that it would always be their endeavour to induce the senior members of the Association to become members of the Institute. That being so he had announced his intention to withdraw from

the Association, as he did not think that members who had joined the Institute could do their duty thoroughly to both societies.

Mr. Hayes (hon. sec.) called attention to photographs on the walls of views taken in Melbourne, and lent by Mr. T. S. Watts. Mr. Clarkson announced that the annual supper would take place on June 30, at 7.15 p.m. at the Holborn Restaurant. He also stated that the annual excursion under the direction of Mr. Edmund Sharpe to the district of Angoulême in the department of Charente would commence on August 30, and end on September 11.

The following Lecture was then delivered by Professor T. Hayter Lewis, F.S.A., on

Architectural Education.

I must mention, at the outset, that the idea of giving here a lecture on architectural education did not originate with me. My impression was that so much had been said about it that people were weary of it, and that, as I had written so much about it before, I was not the proper person to write now. But your energetic secretary, Mr. Clarkson, insisted that I was wrong, and so I give you a few thoughts on the subject. But, from the above reason they are not, I am afraid, likely to be new, as I have not changed at all so far as I am aware the views which I have always entertained. Let us then ascertain clearly the objects to be aimed at; then see how we can best work up to them.

I assume, first, the common case of a youth fond of drawing, charmed with the picturesqueness or splendour of our grand old buildings or ambitious of the distinction to be acquired by designing new. In his view every feeling is subordinated to that of the artist. All his training, so far as his inclination goes, is limited to that. Then he finds, when he comes to the real working life of an architect, that he has painfully to work up again many a branch of study which he had abandoned before he knew how it would aid him in the profession which he chose. The Classics for any branch of it beyond the mere business routine—mathematics for calculating the strength of materials and their strains; the rudiments of the physical sciences for understanding the nature of materials and so on. Or take the case (more common, perhaps, and more to our purpose) namely that of a youth or his parents who have clearly before them the fact that much beyond an artist's training will be required, but uncertain as to the amount of knowledge that will be wanted, or the steps by which it can best be attained.

Now in the first place (and the point is of more real importance than perhaps it appears to be) you want to take your place in society on equal terms with the members of other professions, and to do this you must equal them in knowledge. We have a concise test as to what that knowledge is expected to be in the subjects given for examination at the entrance to them. No matter what the profession may be—the army, the law, medicine—each examination shows that its members are expected to have some knowledge of classics and modern languages, mathematics, and the physical sciences, English history and literature. In special cases, such as the Civil Engineering College, and for the Royal Artillery and Engineers, the examination is very severe, and a good knowledge of drawing is also required. But the list which I have given above is suggested, if not absolutely required, in all.

You may say that all this is true, but that an artist holds his position in society by his artist's work only, and if that be worth the having, he keeps that position whether he be learned or not. But you will all bear me out in saying that in such cases you meet, in an accomplished artist, with an accomplished gentleman; and I need scarcely say that one, at least, of the leaders amongst the artists might almost lay claim to be a worthy successor to the Admirable Crichton.

I assume now the necessity of an education equal to that of those with whom you are most likely to mix in the world as friends or as clients. How then is this knowledge best to be attained? I suppose again the question to be asked by the parent proposing to bring up his son, eventually, as an architect. As I have often said before, I believe that all that is then wanted of the young intended student is the ordinary education of an English gentleman, supplemented with some special instruction in drawing and somewhat more in science than is usually given. I should be sorry to think otherwise, for of all the modes of cramping genius, I believe an absolutely technical school to be about the worst.

Obtain first a good primary groundwork in knowledge generally, and let technical work come after. To go one step further, my decided feeling is that nowhere is this primary education to be so well acquired as at our great universities. I know their shortcomings in the matters of drawing and science, but all this is being amended, and when we have seen Sir Digby Wyatt a professor at Cambridge, and witness the brilliant success of Mr. Ruskin at Oxford, we may be sure that art will receive more care there than ever it had before. Anyhow, be it little or much, as much attention is paid to art and science at the Universities as you are likely to find elsewhere. I don't say that in passing through them everyone must have obtained what is wanted. To many, no doubt, all training there is useless. So must all training anywhere be to many. But college life implies discipline, tests by frequent examinations, contact with clever men, and an atmosphere, if I may so express it, of learning which cannot be obtained elsewhere. I may be allowed to speak of my own experience after what may be called, I suppose, a tolerably successful career, and I may say that the greatest want which I have felt, and felt bitterly many a time at my first start in life, was my not having been to a University. I tell you fairly that some amongst us who have been there do not value it as I do. I speak simply from my own experience in the particular path of life in which it was gained, and in which most of my fellow-workers were University men. I know, too, that a University life necessitates a later start in the strictly professional life than would otherwise be required. No doubt it does, but I don't believe that the time is wasted. No one would trust a youth with work worth having until years after college life has

ended, and depend upon it that a three years' term of study in early life will prove afterwards of incalculable value.

In a public school there are, of course, much the same opportunities for study as at college, frequent examinations as tests, and something of the same prestige in after life as a University gives. But as to schools generally I can say nothing, simply because their status varies in every conceivable way, both as to the kind of knowledge given and the way of giving it.

No doubt there is little special training anywhere, and an amusing instance bearing directly upon my subject is given in the last report of the Cambridge examiners. They examined 4,283 boys and girls at 114 centres, so that the range was a large one, and as an instance of what an architect would learn in the way of drawing, they note that many candidates drew without the least regard to the rules of perspective, and that many who had evidently heard that certain lines ought to converge to a point, proceeded to make them do so accordingly, but with remarkable rapidity. And what an architect would learn as to his common work may be seen by another question, namely, what quantity of paper would be required to paper the sides of a room of a given size and height? Thereupon almost all the girls and many of the boys set to work at once to find the area of the room or its cubical contents. Now there was nothing difficult in the questions. Arithmetic and drawing had simply been learnt parrot-like, and no attempt been made to adapt its working to the common uses of life. Such no doubt are the shortcomings of the schools in which most of our young architects, so far as I can see, must be educated, but the mere fact that such shortcomings are now brought to light is an earnest that they are likely to be amended. Now as to the student when he begins work—I say nothing now as to the merits of our English system of pupillage as compared with the foreign one of the Academy. Pupillage is that to which we are accustomed, and whether it is best (and I confess that I think it is) or not we must take it as we find it. Now what does a student learn in an architect's office? So far as teaching goes, he has commonly (though there are no doubt bright exceptions) just nothing. No one, as a rule, teaches; the pupil simply picks up what he can from the work that is going on in the office and from his fellow pupils, or assistants there—having, often at rare intervals, a little bit of advice and instruction from his master. I speak feelingly, for I had none. The drawings and specifications on which he has to work are, for the most part, dry and well nigh unintelligible to him; and, if he has entered the profession with enthusiastic feelings in respect of it, his ardour too often gets damped at the outset.

Is this beginning of the technical education right? I think not. But the fact is as I have said, and so let us see what is to be acquired out of the office. Undoubtedly, first the power of being able to draw from the buildings which you ought to study, and thus open out to yourselves the secret of their beauty or the reverse. I say nothing less of drawing from the life—the finest way, no doubt, to train the hand and the eye to the perception of what is most beautiful in form. And, for the present, I assume the skill. Now not only in the drawing can you realise to yourself the secrets of the design, but in sketching a building or a detail in the way in which it ought to be sketched you cannot fail to perceive which are the most important of the outlines, how the skeleton was filled up by the ornaments added to them, how the whole system of the construction was carried out, and how you may yourself produce such effects in your own designs. In no way so well as by a careful drawing of the thing itself can you ascertain this. I don't say that good sketching must result in all this. A man may have the power of appreciating the beautiful, but the power to create it is vastly different, and the above result may not be gained. But sure I am that no one is able to design (except by chance) a thing worth looking at, unless he has mastered the principles on which such things should be done, and no way is so likely to lead him to this as the habit of careful sketching—first to get the perspective effect of the mass, and then, if need be, by measured drawings worked to scale on the spot.

I am pleased to see that the silver medal of the Institute and the Pugin memorial prize are usually well competed for; and the requirements of the competitors for them as carried out by the Institute give just what seems to me to be wanted. In respect to the Pugin prize it is gratifying to me to be able to state that it has on three occasions been given to a gentleman in my office. And in speaking of sketching, pray take from me a few words of advice, which long practice entitles me, perhaps, to give, and which, no doubt, have already regulated the practice of many here. Never alter or add to a sketch unless the actual thing sketched is before you. You never can be sure that in what is called finishing a sketch you have not added or omitted something, trifling it may perhaps seem at the time, but possibly important after all. Make pretty copies if you think it worth the trouble, but leave the original untouched. Accustom yourselves, also, to sketch without compass or rule, except, of course, in measured drawings; you will find that you will be able to do without them, and your work will be more free, and in the main more true.

Now to work out what I mean of the extreme value of sketching. First, you must from absolute necessity get the general outline, and thus you can study the effect of the mass, irrespective of details—much as you do when you study an outline boldly marked out by moonlight against the sky, whilst its details are hidden by the gloom. No one could draw a graceful outline thus without its giving him a practical lesson in design. Then come the important details of doors and windows, showing more delicate contrasts of light and shade. Put in the joints of the masonry or other work, and you have the construction. Then come the ornamental parts, and these will show how the constructive and other main lines are emphasised, not hidden; and thus you get the whole history of the structure in your mind, whilst its likeness is being formed by your pencil.

I think so very much of the effect of sketching in the training of a young architect that I have ventured to bring a few sketches here of my own, not as possessing any artistic merit, but serving only to show how easily rule and compass may be dispensed with after a little practice. I say, lose no opportunity of sketching and of measuring and drawing details to scale on the spot. Most of our eminent men have sketched through their whole

career. You cannot do it too much. I must decline to enter into the invidious question as to where the power of freehand drawing is best acquired, but one exception to this I can fairly make is the Royal Academy. Wherever else you may study, the Royal Academy will always be the fountain of honour in art, and to become one of its students is a thing to be aimed at by every young architect. I know well that my own first start in life was given to me by one of its medals, and Mr. Spiers and Mr. Watson will doubtless tell you much the same. I know its shortcomings, and the success of Professor Poynter's Slade School is an emphatic protest against them. But for architectural drawing simply we have at the Royal Academy a colleague, Mr. Spiers, on whose zeal and talents we may safely rely, as doing the best that is likely to be done for us.

In the Royal Academy its prizes and all its sources of instruction are open to you, and you can get there much that you cannot get elsewhere in most departments of art. For drawing from the life and from the antique I believe, however, that Professor Poynter's school is pre-eminent.

As to the history and literature of architecture and the elements of construction generally, I should much like to have said something respecting the lectures at King's and my own College, and I purposely had this lecture postponed because it was my intention to resign my professorship at the end of this session and then I could have spoken more freely of my own part at least. For various reasons I have not done so, and thus my mouth is well nigh stopped as to this. But I may say this much: had I known of these lectures when I was a pupil and had gone through such a course as that of Professor Donaldson or Kerr, and had then pointed out to me the leading facts which I ought to know, they would have suggested many a subject of which I was well nigh ignorant until long after, and thus saved me a vast deal of groping in the dark, and have taught me, with little exertion in early life, much that only came to me afterwards by experience—often dearly bought. I speak now only of the history of our art, not design—that at least is a delicate thing to try to teach. On the one hand teaching might lead to an academic formalism, on the other to a habit of regarding too much the details of a style, and thus to work in a narrow and contracted way. In this matter of art I know of no such admirable way of learning as that for which we owe so much to Mr. Edmund Sharpe. Under such a guide, with the opportunity of seeing a building under different aspects of light and shade and from various points of view, not only can the varying effects of perspective be studied, but the value of every detail brought home to the student in a way which would be hopeless to expect from any lecture in a room.

Then for the more practical part: I know well how a youth, looking at architecture merely as one of the Fine Arts, feels how like drudgery it is to turn for a time, however small, to study, however slightly, so dry a subject as mathematics. Very joyous to him must be Professor Huxley's idea of it. And I quite admit that our grand old groined roofs and other triumphs of mediæval construction were achieved without their aid. But then we cannot ignore the fact that this construction was perfected by repeated trials and repeated failures, which established those rules which modern science has reduced to a matter of rote; and he must be blind indeed to what is passing around him who would attempt to vie with the bold construction of the engineer and yet ignore the science by which alone that bold construction may be safely tried.

In this matter of construction the want of supplemental teaching is equally great as in drawing, but it is not easy to suggest the proper mode of supplying it. Special courses of lectures upon the various subjects to be studied seems to be the most obvious one; but I am very doubtful as to whether we are not overlectured as it is, and in any case I doubt their meeting our requirements. My own view is that we want something that will come more home to us, and it was for that reason that I originally took the clauses in an ordinary specification as the basis of the more elementary of my college lectures. But anything of this sort seems to me to require to be supplemented by something which would bring the student face to face with his actual work, and my view is that this would best be done by extending the system which has already been of much use here, namely, of visits to large buildings in progress, not looking upon them as mere matters of pleasure, but as genuine practical lessons given with the working examples before you by a thoroughly competent person who should make a complete analysis of materials and construction as much a matter of business as though he were in a lecture-room. Supplement these by visits to ironfoundries, brick-fields, workshops, and so on, still under skilled guidance, and then have the formulæ and other such matters worked out here as a wind up, in a way somewhat like lectures and teaching. The lecturer must, no doubt, be a paid one, and the work would be too great for an association to undertake; but I think that it might well be tried by the Institute, and be of more value and interest than any series of ordinary lectures. And this system, if approved, might be afterwards worked in the country also, and so give to students there much greater opportunities than they at present possess for acquiring knowledge. You want, then, so far as I can see, as a supplement to your office work, first such lectures as can be given at college to explain the history and principles of art and construction in a large way, thus receiving a clear general view of the subject, and then have the details worked out on the spot, item by item, in a thoroughly practical manner. Your own system of classes by which you can test your knowledge with each other will supply the rest.

Now as to the examination. I take a special interest in this, not only as having been one of the earliest examiners in company with Sir G. G. Scott and Mr. Ashfield, but because it so happened that it was during my honorary secretaryship at the Institute that the Council put the examination forward as a definite object for the Institute to work out. Now I know well the objections to it, and the shortcomings of all examinations—those, at least, conducted on the English plan. No doubt they narrow to some extent the study of any particular subject, and lead to a system of cramming for any one part of it selected. So much I fairly own is this the case that any examiner of large practice soon finds that if, e.g. he suggest for any subject a particular author, that author alone will be read up. If he narrow the reference to one volume of that author, then that volume only will be read, and so on to any conceivable extent.

Of greater importance is another objection, which has, I know, led some men of eminence to look with disfavour upon that part of the examination which embraces drawing. They doubt the power of any examiner to assign proper and exact places of merit to designs worked out in various styles, and fear that the student's work would be influenced by the known feelings of the examiner. These difficulties certainly did not present themselves in my own experience, and I think that I may say the same of others.

But the examination has to me a prospective advantage beyond the mere learning. The published list of questions will show clearly to any intending student exactly the kind of knowledge which will be of use to him, and also the technical reasons for its use, and in after life incite him to keep up some branches of knowledge which, otherwise, he might neglect.

Now, to sum up, the case seems to me to be this: A student before entering an office requires a good ordinary education, but with a much greater knowledge of drawing and science than is usually obtained. As to the technical training which he requires afterwards, I am more at a loss. In few instances does the pupil gain this in the ordinary routine of office work, and he must learn what he can from his fellow pupils or assistants, or seek for it elsewhere. And beyond the office there is no definite place to be pointed out in which he can acquire it. The three years' course of engineering at King's and University Colleges supply much of it no doubt, but few young architects, I think, will afford time for this, and drawing, so important to us, occupies but a small place in the course; and, so far as at present exists, he must rely upon such opportunities of learning as such classes as yours give him. Even were the means to be obtained they would scarcely be of much avail unless it be a recognised custom to allow the pupil more time to study than he now usually has. Offer what inducements one may, it will be only those young men who have greater energy than usual who will set to at hard work after their office work is done.

But if time were allowed, I think that some such means as the lessons on the spot by such a man as Mr. Sharpe in art, and by others on construction, would go a good way towards supplying what is required. These may seem of modest proportions as compared with the grand academic education of the Continent, but after all it would be merely carrying out our work pretty much in our thoroughly English way, namely, of submitting to some one teacher or leader in whom we can put faith, and then, for working out the details, relying upon ourselves.

Mr. ROBINS desired to have the privilege of thanking Professor Lewis for again taking up a subject which was supposed to be nearly exhausted, but which he had shown not to be exhausted. Professor Lewis had touched upon all the main points connected with architectural education, and he (Mr. Robins) believed that they must all sympathise with him in his views. He was recently conversing with a friend upon the subject, and his friend considered that a youth destined for the architectural profession should receive the best possible education, his opinion being that our pupilage was commenced too early. The system of apprenticeship or pupilage prevailing here differed, as Mr. Robins understood, from the foreign system—technical education abroad almost superseding our plan of apprenticeship and pupilage. One point to which Professor Lewis had not alluded, he thought, was worthy of mention: he held that there was such a thing as a *specialist* in art as in other things, and if students were to concentrate the greater part of their intelligence upon one particular phase of art for which they had a special aptitude, he believed that the result would be more satisfactory than could be expected from taking too wide a range.

Mr. TAYLER, in seconding the motion, said that one of his most agreeable recollections was the kindly smile and pleasant voice of Professor Lewis. Upon the question of education there was one suggestion he would like to make: he thought that the term of articles to one master was too long; for if the pupil served five years or even three years in the same office, it became rather monotonous. He did not mean that the term of pupilage should be shortened, as he would prefer rather to have it lengthened, provided the service was made in different offices.

Mr. R. P. SPIERS said that the Paper of Professor Lewis might be divided into two parts; first, that which had reference to the starting on an architectural course of study, and secondly, that which referred to the end at which all students should aim. Now there was probably no chance of any who were present ever going to the University, and it therefore behoved them to see how they could get the best course of education without going to a University. Mr. Blomfield and Sir Gilbert Scott's son and others had no doubt derived great benefit from attending the Universities, and he quite agreed with Professor Lewis as to the benefit of going to a University when it was practicable, but generally it was impracticable. The lectures delivered at the King's and University Colleges were, however, most valuable, and although a deal was taught in our schools, the knowledge imparted was to a great extent useless for architectural purposes. No doubt technical education had latterly become so important as to cause its introduction in some of the schools, but it could not be depended upon, as the architect would often find in the course of his future career that his client possessed equal if not superior scientific knowledge to himself. He entertained a hope that at some time it might be possible for the Institute to inaugurate a course of lectures on purely technical subjects—lectures similar to those delivered at King's and University Colleges. That would be one means of supplying any deficiency in their early education, and, although Professor Lewis had made kinder mention of him (Mr. Spiers) in connection with the Academy than he deserved, there were also the classes of their own Association in which knowledge of special value might be acquired. He was unable to take so active a part now as formerly in the class of design, but rejoiced that some of the elder members still rallied round the Association and rendered all the assistance in the classes that was in their power. The worst of the pupilage system was that for the first two or three years the pupil did not know what to do, and apart from the mere routine of office work it was necessary that he should learn to think

and work independently. After commenting upon the system of architectural education prevailing in Germany by which the pupils were led through progressive stages until at last they might rank as *baumeisters* or masters of building, Mr. Spiers said the next point he proposed to consider was, What should be the end and aim of all their studies? For many years, he said, the introduction of an architectural examination had been attempted, but he was sorry to acknowledge that hitherto the attempt had not met with the success it deserved. He could not understand the reason for the apathy that had been exhibited, as every stumbling-block had been removed, and the questions treated upon in the class of architectural science were of a standard that would enable candidates to pass even in the class of distinction. Did any feeling exist on the part of students that the examination was useless? If so, and the examination were a mere farce, it was useless to continue it: but in point of fact there were only two subjects—mathematics and history—that were outside work done in the Association. He was glad that a committee of the Institute and a committee of the Association had been appointed to confer together upon the subject and take up the question of prizes; but in his opinion there were too many prizes offered already. For his own part he believed in the examination, and that ultimately the question would be, as a condition of employment, "Have you passed through an examination?"

Mr. FARRER spoke of the great advantage obtained by students from seeing works in progress. The experience thus gained was greater than their masters could teach them. He did not think that three years was too long a term to spend in one office, as a pupil was likely to get distracted if he changed his office from year to year.

Mr. J. D. MATHEWS also dwelt upon the value of visits to works in progress, and appreciated the suggestion of Professor Lewis as to the delivery of lectures on the occasion of visits to brickworks or timber yards. Those who had enjoyed the pleasure of listening to Mr. Sharpe would understand the profit that might be derived from the remarks of a gentleman who was thoroughly acquainted with a subject; and he hoped that some plan might be devised for securing such a practical course of instruction. In visiting works in progress the attendance of a guide thoroughly acquainted with the works and competent to lecture upon them would be very advantageous. Respecting our modern course of education, the system of pupilage, as mentioned by Professor Lewis, seemed to retain a firm hold, but Mr. Mathews thought if some part of the pupil's education could take place on the building itself it would be a very good thing indeed. If the pupil could spend, say a year of his time, at the building, or as clerk of works, he would find it of great practical value, as being a most useful supplement to his artistic training. He desired to add his sense of the kindness of Professor Lewis who had thus again exhibited his interest in their Association.

Mr. T. H. WATSON said he had not much practical advice to offer, but he thought that much of the student's difficulty consisted in his having so large a field before him that he did not exactly know what was the best thing for him to do. He had been surprised to hear the suggestion that some things were considered more interesting and profitable to the student than the passing of the architectural examination, as he considered it was a guide or goal to the student to which he should have regard during the term of his pupilage. The modicum of attention that a pupil could get from a master was not sufficient to supply the education necessary for the young architect. Professor Lewis was an example of the way in which a man by his own exertions could overcome difficulties and attain a position of eminence. They had advantages now which the Professor did not enjoy, and they might therefore reasonably look forward to a greater future than ever for the architecture of England. He considered that the English system of pupilage worked very well, at all events it had produced the men of whose works we were all proud. Formerly there were extraordinary difficulties in the way of acquiring professional knowledge, but now although the facilities were so much greater the continuance of the architectural examination had even been threatened. The examination certainly was necessary, and he should be very much surprised if it were allowed to drop, although it was nothing more than an education test.

Mr. STATHAM, speaking as an architect who was educated in the provinces, said that if he had possessed the advantages offered by only one half of the classes of the Association, he should have thought he was in an educational Goshen. With regard to the examination, he thought the question ought to be determined whether architecture was an art, or should be treated more as a professional science. It might come to this, that a man might pass a very brilliant examination and yet build bad buildings. So far as architecture was an art, he thought the utility of an examination was doubtful, but he was not quite clear in what light it was regarded by Mr. Spiers and others. When they had settled the point whether architecture was an art or a profession, he thought they would be able to discuss the subject from a more advantageous standpoint.

Mr. J. S. QUILTER said he understood Professor Lewis to be of opinion that the architect should first receive the best possible educational groundwork, which ought afterwards to be supplemented by instruction of a more technical nature; but according to his (Mr. Quilter's) view, a better course would be to impart a thorough architectural education, the pupil afterwards applying himself to one particular branch for which he had a special aptitude. He also controverted the statements of Mr. Statham.

Mr. STATHAM explained that he had no intention of undervaluing the importance of education, but he doubted whether an architectural examination was a satisfactory test of efficiency; for instance, they could not examine upon questions of taste and skill.

Mr. ADAMS condemned the practice of architects receiving large premiums for the education of young men, and doing nothing in return. Such a state of things was radically wrong, and if Professor Lewis would talk to the old gentlemen as he had to the young ones, it might have the effect of bringing them to a sense of their duty.

Mr. SPIERS: The reason why this Association exists and has become such a power is because of the neglect of the elder men.

Mr. TAYLOR thought a word was to be said on behalf of the masters. They had gained a certain position, and before taking pupils would say, "You can come to my office and pick up what you can," and parents and guardians accepted those terms.

Mr. S. F. CLARKSON observed that when that long looked for text-book was published architects would have some idea of what was expected from them and parents and guardians would also be enlightened.

The motion having been duly put from the chair and carried.

Professor LAWS returned thanks, and said he would like to make two or three points clear upon which there had been some misconception. With respect to what Mr. Adams had said about speaking to the principals, he thought he had already spoken his mind pretty freely in dealing with the system of pupillage. In addition to the advantages gained from their classes and from communion and fellowship among the members, there were the visits to buildings, which appeared to him to present the most practical method of imparting instruction; but, besides being shown over these buildings, perhaps in a cursory manner, they wanted something more. To illustrate his meaning he would suppose that he was accompanying them over a building, not merely as an architect, but as their paid instructor—and that was what they ought to have—he would say: "This building is put on a certain foundation," and he would then have the foundation examined, and explain why it was put down such and such a depth. Then the concrete should be examined, and the different ways of making it explained. There would be the concrete made at the height of 10 feet, and that made at the height of 2 feet, and he would have the concrete manipulated before them. He would also describe the bricks, and show why a particular description of brick should be used, as well as the difference between Portland and Bath stone, and distinguish good from bad. Now it would take days to do this, but so it ought. Then as to the girders, and why a particular girder was of such a length, and the reason would be given, because it was rolled and you could not get it longer. Such things as girders could not properly be described in a lecture room, but if described on the spot, and they were face to face with their work, they would take greater interest in the subject, and it would come home to them more thoroughly. For practical purposes he thought nothing would answer better than a plan such as he had suggested—assuming always that they knew sufficient of the rudiments of science to enable them to understand what was told them—and when supplemented by being worked out on the spot, and followed by lectures, they would have the means of acquiring practical knowledge which, so far as he was able to see, they had not now the means of acquiring.

THE REQUIREMENTS OF CAMBRIDGE UNIVERSITY.

THE Syndicate appointed by the University of Cambridge to investigate the requirements as to the additional accommodation for the professors and classes, have presented a lengthy report based on the communications which were received from the various professors, and from other persons who represent departments, for which it seems likely that provision ought to be made by additional buildings. According to the report it appears that new lecture rooms are needed by the Professors of Greek, of Latin, of History, and by the Reader in Arabic. The Professor of Law urges the necessity of a law reading-room, to which the law books in the University library might be transferred. The Professors of Archaeology and the Slade Professor of Fine Art suggest alterations in the Fitzwilliam Museum to suit their special purposes. For the department of Geology, 31,700 square feet of additional floor space is required, and the Professor of Chemistry requires 12,000 square feet of floor space, exclusive of passages, and the Professor of Physiology requires about the same, or, if possible, a larger area.

The Superintendent of the Museums of Zoology and Comparative Anatomy asks for working-rooms, class-rooms, and store-rooms, amounting to about 6,000 square feet. The Professor of Zoology and Comparative Anatomy does not state in figures the additional museum space required; probably about 3,000 square feet of additional museum, 700 square feet of Curator's room would suffice for present wants, but the museum should be capable of future enlargement.

The Library Syndicate ask for additional accommodation for books, a reading room, a residence for an officer, and a room for binding MSS. The Board of Examinations state in their report of March 23, 1875, that, "to conduct the previous examination in a proper manner two rooms, each of the area of the Senate-House at least, are needed. They are also of opinion that it would be desirable to have the means of conducting the previous and general examinations simultaneously; this would require a third room of the same size. The Censor of Non-Collegiate Students requires four rooms, say two of 250 square feet, and two of 400 square feet. Rooms are also required by the Secretaries of the Local Examinations Syndicate, the Schools Examinations Syndicate, for similar purposes, say 30 by 20 feet, and 20 by 20 feet, and the University Local Lectures Syndicate respectively.

The Syndicate believe that sufficient accommodation for the Professors of Languages may be provided on a portion of the site for the new Divinity School, the Divinity School forming the front towards the street. The Syndicate think that the buildings for the various departments of Natural Science should be grouped on the site of the Old Botanic Garden. They think that the whole of this site will be ultimately required for these purposes. The general arrangement of the buildings must depend to a considerable extent upon the site and plan selected for the Geological Museum. The fact that this Museum is to be built, in part at least, with the money collected for the Sedgwick Memorial, makes it specially desirable that it should be in a conspicuous position, and of dignified architectural character. These considerations seem to point to a building with a front towards Pembroke Street, and two wings reaching backwards in a northerly direction to meet the existing buildings. The main difficulty is how to accomplish a junction with the present buildings so as to secure

communication with the museums above-mentioned, without interfering unnecessarily with existing lights or making more alterations than are unavoidable.

Roughly estimated, the cost of the buildings and alterations required for the departments of Natural Science amount to 47,000*l.*, which does not include any sum for the department of mechanism, for the rebuilding of the medical school, or for any additions beyond those most urgently needed for comparative anatomy, physiology, and zoology. The Syndicate are of opinion that it is expedient to reserve the whole of the unoccupied part of Old King's Court for the future wants of the University library. There is pressing need for the erection of proper buildings for the University examinations. It appears necessary to provide additional space for the examination of at least 600 students at once. Careful consideration has been given to the requirements of such a building, and it is estimated that floor-space to the amount of 12,000 square feet would be necessary. This could be advantageously divided into two large rooms which would each hold 200 students, and two smaller ones which would each hold 100 students. The cost of such a building may be estimated at about 12,000*l.* To provide such a building it would be necessary for the University to procure a site in some central part of the town. The two smaller rooms of this building could be used as lecture rooms for the professors of law, history, and political economy. The wants of the four departments (non-collegiate and extra-university business) would be met by a two-storied building, 60 by 46 feet; and since these departments are intended to be self-supporting, a moderate rent might be paid for the use of the rooms. The cost may be roughly estimated at about 4,000*l.* The Syndicate submit the above suggestions as the best first approximation to what is needful and expedient which they have been able to arrive at on the several matters referred to them; and they add that should their powers be prolonged till the end of the ensuing Michaelmas term, they would inquire further into the best way of providing for the requirements mentioned, and would endeavour to make some definite proposition respecting them.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE concluding meeting for the present session of the Society of Antiquaries of Scotland was held on Monday last, Mr. D. Milne-Holme, LL.D., in the chair.

The first communication was a letter from Professor Daniel Wilson, of Toronto, to Dr. John Stuart, describing a series of sculptured rocks and boulders recently observed by Dr. Wilson in the Ohio Valley, when inspecting the mound and earthworks which are there so abundant. These sculptures, as appeared from sketches and photographs, consist of groups of hollow cups, sometimes surrounded by concentric lines, and connected by other lines running from the one to the other. Besides these there occur on some of the sculptures long grooves. The cups are at times smoothly hollowed, at others roughly picked or only partially worn, and in the localities where they occur, stone axes, pestles, &c., are turned up by the plough. The rounded ends of these stone implements in many cases fit exactly to the cups, and the conclusion at which Dr. Wilson arrived was that the latter had been formed in the process of the manufacture of the former. He was also inclined to believe that many of the cups so common on boulders and standing stones in Britain and elsewhere, as figured by Sir James Simpson in his work on the subject, may have had a similar origin.

Dr. Stuart, in referring to these mysterious markings, stated that the area of their occurrence had been widened by recent discoveries in South America; and in welcoming Dr. Wilson's suggestion as an element in the further consideration of an obscure subject, he added that its value was enhanced when considered as only a continuation of Dr. Wilson's many valuable services to the Society of Antiquaries, as well as to archaeological research in general.

Mr. Drummond, R.S.A., also communicated a letter from Dr. Daniel Wilson, describing a pair of carved wooden stirrups said to have been found at Bannockburn. Mr. Robert Love, of Lochwinnoch, F.S.A., Scotland, gave an account of various antiquities in the barony of Beith, and of the opening of a long cairn of somewhat remarkable construction on the Cuffhill, and of a crannoge in the loch of Kilbirnie, Ayrshire. The Rev. Thomas Fraser, of Croy, near Inverness, contributed an account of the discovery of silver ornaments, &c., at Croy, which he had presented to the museum. From a description of these articles given by Mr. Anderson, keeper of the museum, it appeared that they consisted of a fine brooch of the ordinary penannular form, ornamented with chased work and settings of amber, part of a finely worked chain of small silver wire resembling Trinchinopoly work, the beam of a small bronze balance, beads of amber and enamelled glass, and a single coin of Cænwal, King of Mercia, A.D. 796-818. This find, Mr. Anderson said, was important, as the occurrence of the coin gave a definite date to this style of Celtic brooch, while this was the first example of the balance occurring in connection with such a hoard in Scotland.

Dr. R. Angus Smith, of Manchester, contributed a fourth instalment of his "Descriptive List of Antiquities near Loch Etive," in which he stated that he had found remains of habitations inside the vitrified walls of Dun Mac Nisneachan, in the partial excavation of which he had found an enamelled brooch of bronze, and his investigations had led him to the belief that this vitrified fort was inhabited in the early centuries of the Christian era. Mr. W. Bruce-Clark, F.S.A., Scot., contributed a notice of the continuation of the excavations in the Bo'ness Cave, in Kirkcaldyshire, which confirm the results of previous discoveries, and show that the occupation of the cave dates from the Romano-British period. Dr. William Trail, of Woodwick, corr. mem. S.A. Scot., sent a notice of two cists found on the farm of Antabreck, North Ronaldshay, Orkney; and the Rev. J. G. Michie, corr. mem. S.A. Scot., some notes of the antiquities at Loch Kinord, Aberdeenshire.

SALE OF THE WOOLNER COLLECTION.

THE collection of modern pictures belonging to Mr. T. Woolner, R.A., sold on Saturday last, consisted of 141 examples, all by deceased painters of the earlier English school, except five, three of which were by Mr. Linnell, sen., and two by Mr. Millais. Of those pictures calling for notice among the older painters, may be mentioned the Old Cottage, by Crome, from the collection of Mr. Yetts, of Yarmouth, and etched by the artist, which sold for 147*l*. A storm coming over Mousehold Heath, also etched by Crome—167*l*. 10*s*. Lanrwst, Wales, by John Laporte, exhibited at the Royal Academy, 1814—66*l*. A cottage and figures, by W. Mulready, R.A.—84*l*. A young lady in a blue dress, by Sir Joshua Reynolds—94*l*. 10*s*. Captain Holdane, by Sir Joshua—34*l*. 13*s*. Conham, by W. Müller—67*l*. 4*s*. The Discovery and the Surprise, by T. Stothard, R.A., engraved by Joseph Strutt, exhibited at Burlington House, 1875—73*l*. 10*s*. The Sleeping Congregation, by W. Hogarth, engraved by the artist and various others—94*l*. 10*s*. A Cottage and figures by W. Müller, signed—162*l*. 15*s*. A Homestead, by Sir A. W. Calcott—112*l*. 7*s*. Worcester, the Cathedral, from the banks of the Severn, by J. M. W. Turner, R.A., about 27 inches by 36 inches, engraved with variations by T. Rothwell—420*l*. Orchard Bay, Isle of Wight, by Turner, engraved by John Landseer—52*l*. 10*s*. Edinburgh, from Salisbury Craigs, by Turner—89*l*. Weymouth Bay, by Turner, engraved by W. B. Cooke, 1814, for "Southern Coast Scenery"—78*l*. 15*s*. Arundel Castle, by Turner, engraved with variations by G. H. Phillips, 1827, for "The Rivers of England"—99*l*. 15*s*. Hampstead Heath, by John Martin—27*l*. 6*s*. Of several good examples of R. P. Bonington, the most interesting were:—On the Coast of Normandy—94*l*. 10*s*; an old French Water Mill—315*l*; a Village in Normandy—141*l*. 15*s*; Venice from the Giudecca, about 10 inches by 14 inches—147*l*; the Palace of the Prince Maffei, Verona, given by the artist to Mr. Dominic Colnaghi, from whom it was purchased, exhibited at Burlington House, 1875—199*l*. 10*s*. Francis I. and his Sister,—

*Souvent femme varie,
Bien fol est qui s'y fie.*

Engraved by Charles Heath—331*l*. By William Collins, The Ferry, about 27 inches high by 36 inches—279*l*. 16*s*. Bruges on the Ostend River, moonlight, etched by the artist, by John Crome (Old Crome), exhibited at Burlington House, 1873—294*l*. A Chateau in Normandy, by J. S. Cotman, about 18 inches high by 24 inches, exhibited at Burlington House, 1875—288*l*. 15*s*. Of the following four pictures by J. M. W. Turner, R.A., Kirkstall Abbey on the Aire, about 24 inches by 36 inches, engraved with variations by John Bromley, 1824, for "The Rivers of England"—273*l*. Crichton Castle, engraved with variations for "Antiquities of Scotland," by G. Cooke, 1826, exhibited at Burlington House, 1875—504*l*. Whalers, exhibited at the Royal Academy, 1845, about 18 inches by 24 inches—325*l*. 10*s*. Neapolitan Fisher Girls, surprised while bathing by moonlight, about 24 inches high by 30 inches, exhibited at the Academy, 1840, and at Burlington House, 1875—525*l*. By J. Constable, R.A.—On the Stour; a study for the picture in the Miller Collection at Preston, engraved by D. Lucas, about 10 inches by 14 inches—56*l*. 14*s*; View near Highgate, exhibited at Burlington House, 1872—178*l*. 10*s*. By J. S. Cotman.—Boys Fishing, lent to the International Exhibition, 1874—141*l*. 15*s*; and the Cave of Boocastle, Cornwall, exhibited at Burlington House, 1875—577*l*. 10*s*. By Old Crome.—A View near Thorpe, exhibited at Burlington House, 1872—304*l*. 10*s*. By J. Linnell, sen.—Evening, a hayfield in Derbyshire; an early work of great beauty, about 9 inches by 5 inches—57*l*. 15*s*. Hanson Foot, Dovedale, signed, and dated 1846, 1854—472*l*. 10*s*. The Last Gleam before the Storm, about 64 inches long by 30 inches, signed J. Linnell, 1847, and Rd., 1863, exhibited at the British Institute, 1847—2,625*l*; this was precisely the sum this picture sold for in May last year, in the collection of the late Mr. James Eden, of Lytham. It was now bought by Mr. Thomas Johnson, of Manchester, and returns once more to Lancashire, where it had so long been in the collection of Mr. Miller, of Liverpool, who bought it of the artist for 300*l*.

The two pictures by Mr. Millais sold were the "Isabella," one of his very first successes at the Academy in 1849, when a youth of twenty, which among artists went by the name of "The Kick," from the figure of the brother, who is kicking at the hound across the picture, in the scene taken from Keats's poem; and a small work, highly finished, taken from "The Tempest"—"Ferdinand lured by Ariel," which was exhibited in the following year. The "Isabella," which, it will be remembered, represents a family party at a mediæval repast, was originally in the collection of the late Mr. Windus, of Tottenham, and was sold with other pictures belonging to him in 1862 for 650 guineas. It afterwards appeared again on the walls of Messrs. Christie's Gallery in 1868, after the death of Mr. Windus, and was sold at a considerable advance on that sum. It was now knocked down at 892*l*. 10*s*. to Mr. Willis. The "Ferdinand lured by Ariel," was sold last year in part of the Ellison Collection for about the same price it now fetched—viz., 315*l*. The total realised by Mr. Woolner's collection amounted to 8,210*l*.

NORTHERN ARCHITECTURAL ASSOCIATION.

THE annual meeting of the Northern Architectural Association was held in the Old Castle, Newcastle-upon-Tyne, on Tuesday evening, the 15th inst., Mr. Gibson Kyle in the chair. Several members and associates were elected and nominated. The secretary (Mr. Oliver) read the annual report, which showed that the number of members was now 57, being an increase on the previous year. The financial position of the society was stated to be most satisfactory. Some correspondence from kindred societies was read suggesting that all the provincial Architectural Associations should unite with the Royal Institute of British Architects, so as to form one united body, each association, however, still retaining its local powers. The correspondence was referred to the committee to bring up a report as soon as possible. The secretary reported, in reference to correspondence with the Corporation of Newcastle as to their surveyor's accepting private

practice, that the town clerk had informed him that the Town Improvement Committee and the Finance Committee had given notice to their respective surveyors, namely, Mr. Fulton and Mr. Lamb, that for the future neither they nor their assistants were to take any private practice whatever. This was all the business.

PAINTING ENGINEERING WORK.

THE following is a report of the Paper "On the Use of Paint as an Engineering Material," which was read before the Society of Engineers, on the 3rd ult., and of which we gave a short abstract at the time:—

After questions of form, strength, constructive material and similar matters have been duly settled in connection with any engineering work made of wood or metal, the engineer has to consider the best method of maintaining that work in good condition. Apart from working casualties, the material of which the particular work is constructed is exposed to atmospheric and chemical influences which tend more or less to modify and corrode its surface, and an artificial surface is therefore formed by applying paint. Most of the paints used for ordinary work are composed of the colouring matter, then of a quantity of white lead, with which and a particular oil they are worked into a paste of the shade required, and are afterwards trimmed down with oil and turpentine when used. The white lead which thus forms the basis of most paints, and is by itself a colour, is the basic carbonate of lead, a heavy earthy powder, white when first made, but soon becoming of a grey tint when exposed to the air, from the action of sulphuretted hydrogen. It is insoluble in water, and effervesces with hydrochloric acid, dissolving when heated, as chloride of lead, which crystallises in needles on cooling. Dilute nitric acid easily dissolves white lead, with effervescence caused by the escape of carbonic acid gas. When heated on a knife or slip of glass it becomes yellow. It is not very generally known that white lead and oil combine with such energy that if linseed oil is poured upon a very large quantity of white lead, and the mass allowed to stand for a few hours, the temperature becomes so high that the oil is carbonised and colours the whole a black. We should carefully avoid mixing with white lead substances which may impair its brightness or depreciate its other qualities, and it should be kept in closed vessels, otherwise it will acquire a brown shade. For good paint it should be pure and without foreign mixture; however, both manufacturers and painters add to it variable proportions of chalk, sulphate of lead, and the like, and it is often mixed with that sulphate of baryta which is called baryta white, and which is prepared from the native sulphate or from carbonate of baryta artificially treated with sulphuric acid. Baryta white is an adulteration which ceases to be objectionable when the manufacturer makes the composition known, as it is of a handsome white colour, entirely innocuous, fast and resisting most reagents; its great defect being that it possesses but little body or covering power. The manufacturers sell various qualities of white lead, sometimes in powder or in lumps, as genuine dry white lead, or flake white, but the greater portion in a paste, holding from 7 to 9 per cent. of oil. Kemas, Nottingham and Newcastle whites are pure lead differing only in the way in which they are made. Venice white is a mixture of equal parts of white lead and sulphate of baryta. Hamburg, Holland, and other whites contain from 3 to 60 per cent. of sulphate of baryta, and inferior qualities large proportions of chalk. White lead paint is solid and durable, but two disagreeable vapours given off by the lead exercise a dangerous effect upon the health of the workmen who are engaged either upon its manufacture or its use.

Many substitutes have been tried to obviate the employment of white lead. Zinc white in particular has received considerable attention; it has not such a bad effect upon the health, having no smell of itself, and does not impart any to the liquids with which it may be mixed, so that any place freshly painted with it may be at once inhabited without fear of its injuring the occupants. Zinc white is the oxide of zinc; it is insoluble in water, but dissolves in hydrochloric acid, usually effervescing slightly from the escape of carbonic acid, which oxide of zinc absorbs from the air. When heated, oxide of zinc becomes yellow, but resumes its white colour on cooling. It is as brilliant, white and fine as white lead, and becomes on drying so hard that it will take a bright polish; it does not alter under the destructive action of sulphurous vapours, or of gas with equal weights; it covers a larger surface than carbonate of lead, but it is very dry under the brush, and therefore requires more labour in applying it, which to a great extent explains the disinclination to use it, spite of all the efforts made in its favour. It also takes longer in drying, and when adulterated is very liable to change colour.

Red lead, so largely used by engineers, is an oxide of lead, usually in the form of a bright red powder, which is not affected by water, but evolves the smell of chlorine when boiled with hydrochloric acid, and is slowly converted into chloride of lead. Dilute nitric acid only partly dissolves it, leaving a brown powder. On account of its durability, it is frequently used as the priming coat, often the only coat given, on ironwork. Care should be taken that no salt is present, otherwise a chemical action commences, blisters are formed, and the lead is reduced to the metallic condition. It has been proposed to substitute for red lead a red obtained from a sulphide of antimony, termed antimony vermilion, which is sold in a state of very fine powder, without taste or smell, and which is insoluble in water, alcohol, or essential oils. It is but little acted on by acids, and foreign engineers state that when ground in oil it acquires great intensity or brightness of colour, that it has a good body, is unalterable by air or light, and may be freely mixed with white lead. Black paints made from the residual products obtained in distilling coal and shale oils are largely employed for rough work. They combine readily with drying oils, and give an intense and handsome black, which is at the same time very economical. Native oxide of iron has of late years supplied us with a paint which possesses many of the good qualities of red lead without its inconveniences. Oxide of iron paints are most effective and durable paints to use on iron, as they have no tendency to change or affect the surface of the metal. An analysis of one of these paints gave—peroxide of iron,

68-95; aluminous earth (clay), 1-48; burnt clay, 29-57; total, 100-00. The purple-brown oxide is a hydrated peroxide of iron, Grant's black is made of shale containing iron, and the well-known Torbay paint is a protoxide of iron. Under equal volumes iron paints cover more than those from lead; mixed with one-third of white lead it forms an excellent mastic, similar to that made from red lead, and which becomes very hard after drying for some time. As the iron oxide paint resists a strong heat it is advantageously employed for painting part of machines and boilers. The so-called anti-corrosive paint is made of equal parts by weight of whiting and white lead, with half the quantity of very fine sand or road dust, with colours at pleasure. The mixture being made with water can be used as a water-colour, but it is usually applied as an oil paint. The preparation of oil recommended for this purpose is twelve parts by weight of linseed oil raw, one part of boiled linseed oil, and three parts of sulphate of lime, the whole well mixed. One gallon of oil thus prepared is used to 7 lbs. of the paint. Paints containing silica have been used for both wood and metal; they give a hard surface which is very durable; it is stated that when mixed with proper oils they will resist the action of salt water or acids better than iron or lead paints, that they cover well, and that in the case of wood they form a considerable protection against fire. In addition to the pigments mentioned, which are in themselves colours, various tints are produced by additions of—ochres, earths naturally coloured by iron; chromes or yellows, consisting of oxide of lead and chromic acid; blues, such as Prussian blue, from animal refuse burnt with potash and iron; smalts, from oxide of cobalt; ultramarine blue, from carbonate of soda, silica, alum, and sulphur; or greens, from oxides, carbonates, and arsenates of copper.

(To be continued.)



Furness Abbey.

SIR,—I feel that I owe it to those to whom the charge of Furness Abbey has been entrusted for the last twenty years to ask you to allow me to qualify the statement made by my friend Mr. Christian in regard to these ruins, at the meeting of the Institute on the 7th inst., and reported in the *Architect* of last week.

Whatever may be the dilapidations to which Mr. Christian refers, they certainly must have arisen at an earlier date than he supposes, for within the period I have named, at least, the utmost care and attention have been paid to these valuable remains; the whole of the walls have been repaired and consolidated, and their upper parts filled with cement and protected from the effects of the weather.

The inner order of the tower arch, which had long been in a critical condition, having fallen some years ago, it was immediately rebuilt, and secured in its position at considerable trouble and expense, a scaffold 30 feet high having been erected for the purpose.

Within this period excavations have been carried out which have laid bare the floor of the cloisters, and the whole of the lower part of the walls and piers of the Domus Conversorum, of which formerly not a trace existed; the original design of the blind-storey of the transepts has been recovered by the removal of the rubble masonry which encased it. The whole of these works and repairs having been carried out in the most judicious manner, no "restoration" of any kind having been attempted, except what was necessary for the preservation of the buildings, I feel called upon, as a constant witness of what has been done, to say so much on behalf of those who may not unnaturally feel aggrieved at Mr. Christian's remarks. It is quite true that formerly little attention was paid to these ruins, and it is probable that during the last half century much that was valuable has been lost; but the only important dilapidation that I believe has happened within the memory of persons now living was the fall of the vaulting of the Chapter House—an irreparable loss, not only on account of its being, if not unique, yet an extremely rare example of a Cistercian Chapter House vault in its original condition, but also because it carried the floor of the Scriptorium, or Library, the walls and windows of which were all in a complete state, being in fact, so far as I know, the only example of this apartment left to us in Christendom.

But whilst the loss of this valuable example justifies the general expressions of regret for past neglect, that were uttered as well by Mr. Christian as by our esteemed president, we cannot but rejoice that the increased interest now taken for many years past in these buildings, as well by their present noble owner as by the directors of the Furness Railway, dispels all fears in regard to future dilapidation; and although the charming solitude in which the enchanted archeologist could formerly roam and sketch without fear of interruption no longer exists, yet we can hardly lament that what was then the charm of the few has become the delight of the many, and that thousands now take an intelligent interest in these characteristic remains and fully appreciate their national value which were formerly visited annually by only a score or two.

I will only add that the care with which the grounds are kept, and guarded, and the jealous insistence on the propriety of behaviour of those who visit them, is all that can be desired.

Your obedient servant,

EDMUND SHARPE.

The Works of the late Mr. Pugin.

SIR,—It is now exactly twenty years ago that I was invited by the Catholic Poor School Committee (a body representing the interests of the whole of the Catholic Poor Schools of England) to enter into a limited competition for the erection of a new Training College for Schoolmasters at Hammersmith.

The competition was confined to the following gentlemen and myself namely, Messrs. E. W. Pugin, W. W. Wardell, and G. Blount, all of whom submitted designs. The decision of the committee was in my favour, and I subsequently superintended the erection of about three fourths of my design, which was all that the committee were then in position to carry out.

I was therefore somewhat surprised to see the "Training College Hammersmith," included in a list of the late Mr. E. W. Pugin's works, an error which, if you would kindly rectify by the insertion of this letter in your valuable journal, you would much oblige,

Your obedient servant,

CHAS. HANSOM, Architect.

Clifton: June 14, 1875.

P.S.—I enclose lithograph, printed for private circulation in 1855, showing the whole of my design.

SIR,—In your list of the works of the above I notice "St. Joseph's Retreat, Highgate;" this is a mistake; the only buildings erected there under the superintendence of an architect are a small chapel on the west side of the church, and the monastery now in course of erection, both from my designs. The church was built some years ago by Mr. Bird, the builder, without professional superintendence.

7 Furnival's Inn, E.C.

June 12, 1875.

Your obedient servant,

FRANCIS W. TASKER.

General

A Fine Arts Exhibition will be held in Simla for the eighth time, towards the end of September next.

The Annual Meetings of the Somerset Archaeological and Natural History Society for 1875, will be held in Frome, under the presidency of the Right Hon. the Earl of Cork and Orrery. The days fixed for the meetings are Tuesday, Wednesday, and Thursday, August 10, 11, and 12. On the former day the noble president will deliver an inaugural address at the Auction Mart, Vicarage Street, where the temporary museum of local and other curiosities will be arranged.

Mr. T. C. Baring, M.P. for South Essex, has, it is said, undertaken to rebuild Hertford College, Oxford, and to add considerably to its endowments.

Captain Tyler, R.E., has started for a tour in Turkey, where he has been appointed one of three inspectors to examine some of the railways which have been recently completed in that country.

The Statue of Lord Rosse, the astronomer, by the late J. H. Foley, R.A., which is intended to be erected in Parsonstown, was cast on Saturday last at Messrs. Masfield's foundry.

Mr. James Docharty's Picture, *Gaffing a Salmon*, at present being exhibited in the Royal Academy, has been purchased by Mr. A. Whitelaw, M.P. The work is valued at upwards of 700*l*.

Sir John Lintorn Simmonds is about to be appointed Inspector-General of Fortifications, in succession to Sir F. Chapman. He has been head of the School of Military Engineering at Chatham, and recently Governor of the Military Academy at Woolwich.

Aloysio Juvara, the well-known engraver, died at Rome on May 30, at the age of 67. In 1868 Juvara received the second gold medal of the Berlin Academy, and besides this, he had obtained seventeen other medals in recognition of his artistic skill. His plates of the "Madonna della Regia," and of Mancinelli's "S. Carlo Borromeo," are among his best compositions.

The Foundation Stone of the Votive Church of Montmartre was laid on Wednesday by the Cardinal-Archbishop of Paris. The *Times* correspondent says "that nothing seems less imposing or artistic than the design adopted, which resembles a mosque with five domes or cupolas, terminated by a very high tower, exactly like a minaret. Viewed from the front its aspect is really ungraceful, the large central cupola looking as if it issued from the large tower behind, while the two small cupolas show the heaviness of the central cupola and the exaggeration of the tower in the rear."

The Inscription on the pedestal of the bust of Charles Knight, by Mr. Durham, just presented by the Testimonial Committee to the town of Windsor, is as follows:—"Charles Knight, author and publisher, born at Windsor, March 15, 1791. Died at Addlestone, Surrey, March 9, 1874, and buried in his native town. His chief work through life was to bring good literature within the reach of all. This bust was presented to the corporation of Windsor by the committee of the Charles Knight Testimonial, June 14, 1875."

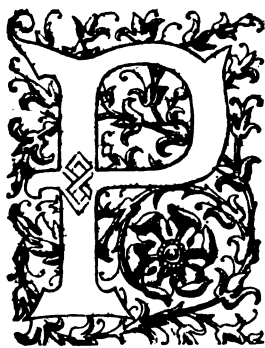
The Death Rate in Liverpool has been reduced to 20 in 1,000. This is partly attributed to the adoption by the health committee of the recommendations of the Government Commissioners to cut off the direct communication between cottage houses and sewers.

The Rateable Value of Jarrow township has increased upwards of 8,000*l*. during the past six months, being now 107,000*l*.

The Sea Wall of the Aquarium at Margate has been completed, and about three acres of beach will be reclaimed by it. It is constructed of 927 blocks of concrete, each weighing about 7 tons. The skating rink has been commenced, and it is to be completed in about five weeks. It will be 164 feet by 55 feet, and will be finished with Claridge's Seyssel Asphalt. A bridge will be thrown from the jetty to the sea-wall, if the Pier Company give their consent.

The Architect.

ARCHITECTURAL PUPILAGE.



PROFESSOR LEWIS has been delivering once more a lecture to architectural students, at their own request, upon the question of their professional education, and once more his hearers have turned the conversation upon the question of office pupilage. There are many persons who will think we have had enough of this, and who will indeed roundly declare that if less encouragement were given to uninformed and undisciplined learners to discuss the conduct of their teachers, the better in all probability would their instruction prove to be.

Probably there never was a pupil yet, whether in an office of business of whatever profession, or in a school of whatever class, whose virtuous indignation did not in one way or another become occasionally aroused against the thralldom of his work, if not the incapacity of his master. To err is human, and to indulge in these little errors of youth is so very human that when the best of us encounter a case of the kind we have not the heart to re-monerate, so well do we remember that the case was once our own. But when it comes to this, that the seniors of a somewhat learned and accomplished profession have to appeal year after year to the juniors to submit themselves to a certain process of education, in order to keep pace with the times, whilst the reply is that this process is prevented or paralysed by another which holds precedence of it, and which is a delusion and a snare of the masters' own making, we may at any rate inquire what are the right and wrong of the matter.

The purpose with which Professor Lewis addressed his lecture to the Architectural Association, as reported by us last week, was no more than to place before the young men of the profession once again the often-told story of the desirableness of systematic technical instruction as the basis of architectural study. He had nothing positively new to advance, or even to suggest. The Voluntary Architectural Examination of the Institute was obviously the scheme which he had in his eye; and the task of persuading the young men before him to prepare themselves for such a test was what he had practically set himself to pursue. This task he performed gracefully. But when, towards the close of the meeting, one of the members of the Society—a gentleman of some reputation—rose, as some member in such cases is sure to do, with the resolve to say something notable, this, as we are informed, is in substance what he said. Gentlemen of the profession of architects take pupils into their offices. They receive with them certain not inconsiderable sums of money as premiums. For this they covenant to teach them. They do not teach them. They exact service from them in office work, which they dare not pretend to call instruction. But as for personal communication, it sometimes does not even go so far as to wish them a good morning. The amount of real professional knowledge that is thus acquired is just nothing at all. And then these gentlemen have the assurance to urge their deluded and hard-worked servants to educate themselves! He thought, concluded the speaker, that Professor Lewis might do better to address himself to these sham teachers and remind them of their obligations. To this bold challenge another member—a gentleman still better known to fame, and of some authority, indeed, upon the question, added the caustic remark that the evil practice complained of is not only a decided blot upon the escutcheon of the profession, but furnishes the very reason why the Architectural Association, as a sort of protestant junior Society, claims to maintain its existence and to decline amalgamation with the senior body which may be supposed to uphold the pernicious system. Thus pressed, Professor Lewis could only reply that he had already spoken his mind pretty freely upon the subject of pupilage for masters as well as pupils, and seniors as well as juniors, to hear. Himself a master and a senior, he could scarcely say more.

Now the first question to ask with regard to this system of pupilage, thus so broadly complained of, is whether it is at all peculiar to the architectural profession. To this inquiry it is needless to offer any other answer than that it is practised in England in every vocation of any importance that we know. It lies in fact at the very foundation of our system of affairs, as a first principle, that one's knowledge of "business" shall be obtained during the years between boyhood and manhood by actual participation in the transaction of affairs, or, as the case is sometimes put, by continually breathing the atmosphere of the business in question. In this way it is considered that the youthful intelligence acquires a certain instinctive habit of work which is altogether different in value from any mere intellectual instruction, and, as English people think, altogether superior in value. It follows, no doubt, that the learner

will in many circumstances fail to perceive the merit of the system, and even see good reason, as he supposes, to believe himself imposed upon, his time wasted, and his premium sacrificed. But if we say that his elders, his father and his master, know better than he does, this will probably be conceded by all sensible people; and if we add that he himself comes in time to look upon the matter in a different light, it is perhaps no less invariably the fact. We in England are apt to cherish the notion that English men of business are on the whole, granting all their deficiencies, the best men of business in the world; and it is by no means a visionary theory to suggest that this is due in a large measure to the very practice before us.

This being so, the principle of paying pupilage premiums is only an incident of those peculiar conditions of pecuniary abundance under which we just now have the privilege of living. Every vocation that is worth following, as a rule, costs a certain sum of money to learn. The precise amount is in proportion to the estimation in which the calling is held by the public; and if any candidate happens to succeed in obtaining admission for less, it may be said of him, first, that if he has not paid his footing in one way, he has in another, and secondly, that he runs a serious risk of being regarded in after life as one who after all has not entered by the door but by some other way. Let any one reflect what are the entrance fees directly and indirectly paid at the portal of the legal profession, the medical, or the military. Even mercantile houses in the City of London and elsewhere are nowadays claiming large premiums with articulated clerks. Engineers of various classes are even more exacting. Beneficed clergymen do not scruple to deal with curates on the basis of a set-off in salary for the title to orders. Shopkeepers and petty tradesmen, who formerly gave "the boy" wages, now waive the customary premium instead; and persons in a still smaller way of business, who once paid the young scapegrace even liberally for his doubtful help, now allow him but half as much in consideration of his being a learner of a lucrative occupation. We should not be too much surprised if it were to appear on inquiry that the chimney-sweep himself in these advanced times, having ceased to induce his apprentice to ascend the flues, deducts so much from his earnings for the privilege of entering the more luxurious profession. If, therefore, paterfamilias desires to make his son, let us say, an architect, it is the mere rule of business that he must pay for it. Two questions, but no more, seem to be legitimately open to him; first, is the price reasonable? and secondly, is the equivalent adequate? If a third question be raised—whether the payment can be avoided, the answer certainly is that it may, subject of course to the considerations we have already hinted at. To overleap all these points and pretend to make but a single issue of the matter—whether architects are justified in taking several hundred pounds of a pupil's money and giving him for it absolutely no instruction whatever—is vain.

First, then, is the amount of premium usually paid to architects excessive? In reply to this we must premise what will surely not be disputed, namely, that the benefit derived by an apt pupil from the experience gained in an office of high class is something which in his future career may prove to be much more than half the battle. That which we have called the mere atmosphere of business is not only different in different offices, but, in those occupying the self-same field of operation, it is as invigorating in one as it is comparatively enervating in another. One more proposition of a prefatory character which we are bound to state is that the majority of paying pupils are a good deal of a nuisance (to use the common vernacular of the case) rather than anything else—a positive impediment to work rather than an aid—for the first half of their term at the least, so much so that there are not a few men in excellent practice who decline to take paying pupils at all. Then, if a youth can be placed in a good London office at the present time for from 100*l.* to 300*l.*, and permitted to leave in three years, that is to say, at the very time when he is beginning to be useful, who can justly say this is unfair?

But, secondly, is there instruction or is there none? Here we have no hesitation in asserting that the instruction obtained—it is not at all necessary that we should say it is conveyed—is in most offices ample so far as its promised limits extend. The pupil may be disappointed, but it generally ought to be with himself. The master, it ought to be remembered, is disappointed quite as often. As matter of fact, the amount of drawing and designing skill which is "picked up" by an intelligent and industrious youth in the course of a few years' service in a high class office is very considerable. No doubt there is a difference between picking up for one's self and being crammed by someone else; but where there is plenty to pick up surely the other process may be dispensed with, and whether that which is laboriously picked up by industry is not better in itself than that which is crammed into indolence is a question that need not be asked. If it be alleged that here and there an architect is to be found who takes in all the pupils he can get and has nothing for them to do, then let him be exposed as a fraudulent master; but to cast aslur upon the whole profession merely because moderate premiums are charged in accordance with custom, and personal teaching not even pretended to be afforded for the money, is on the face of it as unfair as it is injudicious.

But those who desire to escape from the payment may take courage. There are some of the leading architects of the day who never paid a premium. A still greater number of the best of the younger draughts-

men have likewise paid nothing, even in recent times. Ability, industry, and a good education, will be eagerly accepted in the place of money in many a good office.

As regards self-instruction, one word will suffice. All professions require it alike, and even all trades. No office work can serve the same purpose. The architectural profession is full of it; but not full enough.

THE ARCHITECTURE AND COSTUME OF SHAKESPEARE'S PLAYS.

BY EDWARD W. GODWIN, F.S.A.

The Roman Plays.—No. III. Antony and Cleopatra.

THE Rome of the time of ANTONY would be in every respect much the same as the Rome of JULIUS CÆSAR. The difference in date between the two stories is only a very few years. Indeed Antony and Cleopatra may be taken as a continuation of Julius Cæsar. The latter play ended with the fall of BRUTUS at the battle of Philippi, B.C. 42. The other tragedy begins with the death of FULVIA, B.C. 40, and concludes with the death of KLEOPATRA, B.C. 30. The last of the PTOLEMIES, passionate and animal as she was, seems to have been no worse than were many members of her distinguished family before her. The legitimate dynasty became extinct on the death of PTOLEMY ALEXANDER II. But ALEXANDER had a natural brother—one DIONYSIUS AULITES—who, after much trouble, secured for himself the throne of Egypt, leaving it to his eldest child—the KLEOPATRA of the drama—who was born B.C. 68. There had been already four generations of KLEOPATRAS. The first was a Syrian princess, who was married to PTOLEMY EPIPHANES, and who bore him two sons and two daughters, both of the latter being named after their mother. One of these girls was taken to wife by her brothers in succession, and had a family by each, the eldest son of the youngest brother being PTOLEMY SOTER II., the grandfather of our KLEOPATRA.

In the tragedy before us we have no less than thirty-six scenes. Of these twenty-five are architectural, including the one on board POMPEY'S galley, which belongs to naval architecture. The other twenty-four are divided between Alexandria, Rome, Messina, and Athens, or the respective residences of KLEOPATRA, CÆSAR, POMPEIUS, and ANTONIUS, but by far the most important of these are those which belong to the City of the PTOLEMIES. It is next to impossible to reduce this play to set scenes, for the unities of time and place are quite disregarded by the author. In the first and last Acts a very slight change would enable us to bring these into two scenes, if the fourth Scene of the first Act were carried on to the second Act and the first Scene of the fifth Act omitted, but the second Act carries us in seven scenes from POMPEY'S house at Messina to the house of LEPIDUS at Rome, thence into CÆSAR'S palace, thence into the streets of Rome, thence to the palace at Alexandria, thence to Misenum, and finally leaves us floating on the sea. In the third Act (eleven scenes) we are in Alexandria, Rome, and Athens; now on the plains of Syria, and now on the promontory of Actium. In the fourth Act of thirteen scenes we are certainly confined to Alexandria and its neighbourhood, but we are perpetually moved about from the inside of the palace to the outside, from within to without the walls, from one camp to the other, until we are brought to rest in that remarkable scene—"the monument." I see no reason why the scene in the house of LEPIDUS (Act II., Scene 2) should not be laid in a lesche or under a colonnade before CÆSAR'S house, and thus serve also for the two scenes which follow it. Indeed, by the exercise of some little thought and care, the whole number of the architectural scenes may be fairly reduced, and it is possible without serious mutilation to prevent some of the abrupt changes, as for example that brought about by the introduction of Alexandria in the fifth Scene of the second Act; for there does not exist, as it seems to me, any great obstacle to this scene forming part of the third in the third Act. I cannot at present see that we can do with less architectural scenery than that set down in the following list, unless the scenes at Athens and Messina are omitted altogether:—

1. The palace at Alexandria—interior.
2. A monument at Alexandria.
3. CÆSAR'S house at Rome—a lesche or colonnade.
4. ANTONY'S house at Athens—interior.
5. POMPEY'S house at Messina—interior.

Of the interior of KLEOPATRA'S palace the play presents us with no less than twelve scenes, and with one laid outside or before the palace (Act IV. Sc. 3), but all thirteen could reasonably pass in one hall if attention was given to the planning of it. The remains of the temples at Philæ, Dendera, and Kalabsche, the relic of the palace at Medinet Habou, and the representations of domestic architecture in the fragments of wall paintings in our museums, are the only authorities available for this important scene, for what is left of the old city of Alexandria is little more than an inchoate mass of ruin. The temples and palace, however, that I have just mentioned must be held to be far inferior to the temples and palaces of the royal city. A city founded by such a man as ALEXANDER, and that, too, for his favourite natural brother,* a city whose chief street was 100 feet

wide and nearly four miles long, whose geographical position was such as to command the commerce of the known world; a city where the last dynasty of Egypt's kings resided for nearly three centuries, where one PTOLEMY devoted his powers to the advancement of art and science by originating and devising educational schemes—schemes that would put to shame the largest efforts of modern governments; where another PTOLEMY carried these designs into noblest execution by the establishment, among other things, of a museum—school, and a library that were among the wonders of the world; a court where EUCLID and NIOMACHUS, ANTIPHILUS and APOLLO were by no means remarkable men; a city where the Aryan and the Semitic nations were united, where the Egyptian, the Jew, and the Greek met, as it were, on a level platform—was not a place where architecture or any other art would be likely to be underrated. The picturesque irregularity visible in the work at Philæ must not, however, be taken as applicable to the palace of the PTOLEMIES at Alexandria. That the spirit of Greek freedom—that freedom without which the Propylea would never have been—might have struck root in Alexandria is more than probable, but the day of freedom, of original art-thought was already far spent; law was taking the place of feeling; geometry was being substituted for the eye; instead of ideas being created facts were collated; the beautiful was reduced to a system, and art was made science. The evidence of material wealth—a splendour lavish as daylight—would be there. Whatever marble and basalt, porphyry and serpentine, bronze or silver, or gold, or any other precious material could do we may be quite sure was not lacking. Mechanics would shine like the sun in construction; multitudes of pillars, and miles of avenue, and corridor, and labyrinth would speak of the mighty mass of labour in the service of Egypt; but the creative art power had passed its meridian a full century before the city was founded, and quite two centuries before the PTOLEMIES began the objectionable practice of marrying their own sisters.*

The "monument" of the play is evidently nothing more than the raised stage at the back of the main stage, so common in the theatres of SHAKESPEARE'S time. An Egyptian monument or tomb was constructed on principles which could not possibly admit the poet's idea. But the Greek monument was altogether different. In the one case we find a tomb, an architectural grave, a sepulchre; in the other we have a house, a shrine, a temple. The little memorial of LYSICRATES at Athens, and the temple-like Lycian monument discovered at Xanthus, and now in our National Museum, are extreme illustrations of one principle of design. In both the structure consists of two storeys; the ground storey solid and comparatively plain, the upper storey open and enriched with columns, figure sculpture, and other ornamental accessories. Now, although acting on a higher platform than the stage is always made to look more or less ridiculous by modern scenic arrangements, in proof of which assertion I may cite JULIET'S balcony as a flagrant example, and although I know of no instance where this division of stage level has been well carried out, yet even in the Veronese and Venetian plays there is no room for reasonable excuse if the scene results in failure; still less in the play under consideration should the acting suffer, inasmuch as the area of the monument of Egypt's QUEEN may be of almost any size. In its architecture, as compared with that of the palace, there might well be marked the vast difference between the arts under the first PTOLEMIES, when the *Aphrodite Anadyomene* was painted, and the low condition to which a hundred and fifty years of rapid decline had brought them, when the last of the Macedonian dynasty ascended the throne.

Our third Scene—CÆSAR'S house at Rome—needs no further description than what has already been given in the notes on Julius Cæsar. ANTONY'S house at Athens might be one of the old Greek houses or palaces, with its double arrangement of Andronitis and Gynaecitis, or the men's and women's quarters. The fourth and fifth Scenes of the third Act introduce us to two rooms in this house, but there is no reason why one interior should not suffice for both Scenes, if the proper room be selected, which I take it should be the pillared hall (αὐλή) of the Andronitis, which in a Greek house occupies the place of the Roman Atrium. The floor might be of mosaic, whilst both the ceiling and walls might be painted. POMPEY'S house at Messina, or Messana, might be either Roman or Greek, or half and half. The old Greek city was destroyed by the Carthaginians in B.C. 396, but DIONYSIUS, tyrant of Syracuse, at once rebuilt it, so that its buildings were well seasoned—neither too new nor yet too old—when the Romans came into possession after the First Punic War, B.C. 240.

The Costume of this play may be taken to be somewhat mixed. That the Roman fashions were for the most part accepted wherever the power of Rome had made itself a reality may be safely assumed, but then these fashions were themselves moulded on those of other nations. Nor was this spirit of imitation or copyism altogether confined to the people by the banks of the Tiber. It is said of the great ALEXANDER that, after his Persian conquests, becoming partial to some of the things he saw in Asia, and desiring to make himself popular with his new subjects, he actually assumed the Persian habit and adopted many of their customs. Everyone knows that the

* Aristot, one of the concubines of Philip of Macedonia, was pregnant with the child afterwards known as Ptolemy I., surnamed Soter, when she married Lagus.

* Ptolemy, the big-belly (146-117), not only married his sister, and this too after she had become his brother's widow, but divorced her in order to marry her daughter by his brother.

Romans followed his example in regard to Greece with a sort of alacrity which was at times almost amusing. But fashion, in old as in modern times, belongs to the upper classes, so that while I have little hesitation in clothing KLEOPATRA and her court in the habit, or some slight modification of the habit, prevalent among Greeks—more or less adopted also by the Roman aristocracy—the poor people, the clown especially, and perhaps the soothsayer, might very well exhibit in their dress some tradition of the old nation to which they belonged.* The Ionic chiton, the chlamys, the peplos, the transparent fine linen vest, chemise, or under tunic were dresses which obtained throughout the shores of the Mediterranean with but little variation beyond that resulting from increase or decrease in length or breadth of material. No doubt, too, the fashionable ladies of Alexandria had their parasols or umbracula just the same as the ladies of Athens, Rome or Pompeii. Broad-brimmed straw hats, with low, saucer-shaped crowns, were also probably worn. OCTAVIA, after her marriage, might appear in the stola and the square-cut white pallium, fastened with a fibula or brooch on the right shoulder, leaving the right arm free. For the details of the costume for this play it will be sufficient to refer to the marbles and bronzes in the British Museum. Among the references to costume in the text of (1) Julius Cæsar and (2) Antony and Cleopatra we find mention made of (1) leather aprons, crowns, coronets, doublets, cloaks, kerchiefs, nightgowns, dressing gowns, with pockets, spurs; (2) the points of a doublet, crowns, "crownets," and pockets. In Julius Cæsar the architectural passages are few and slight—

— Many a time and oft
Have you climb'd up to walls and battlements,
To towers and windows, yea to chimney-tops,
&c., &c.

Mention is also made of stone towers and walls of beaten brass, and there are references to buildings and places in Rome, e.g., POMPEY'S porch, POMPEY'S theatre, the statues of "Old BRUTUS" and POMPEY, images decked with ceremonies or hung with trophies, public pulpits, and CÆSAR'S walks, arbours, and orchards. In Antony and Cleopatra there is not one word about architecture or building, but then we have a description of the QUEEN'S barge, which was all overlaid with gold and "like a burnish'd throne burnt on the water;" its poop was of beaten or repoussé gold, its sails were purple and perfumed, the tackle of silk, the oars of silver, and the pavilion or canopy or dais which shadowed the rare Egyptian was cloth of gold of tissue. If a throne was wanted in the market-place for the serpent of old Nile and her lover, it was got by setting chairs of gold upon a platform of silver—"a tribunal silver'd." SHAKSPEARE'S idea of KLEOPATRA'S person may be gathered from a few scattered expressions. According to the poet she was of a dark or tawny complexion, the words he puts into her own mouth would even go so far as to make her black and wrinkled:

— Think on me,
That am with Phœbus' amorous pinches black,
And wrinkled deep in time?

Allowing for the exaggerated language of the woman, we must still, I think, conclude that her charms were not to be found in beauty such as PERICLES or PRIDIAS delighted in. She was old, very old for Egypt; but even the rough soldier, ENOBARBUS, says that "age cannot wither her nor custom stale her infinite variety." Not in measured beauty of form or face, but rather in the serpentine or undulating movements of her body, in the changing expressions of her full-lipped wavy mouth and large dark eyes, in her expansive brow—a feature not so much admired now as in SHAKSPEARE'S time; above all, in her wit must we seek for the strange witchery she exercised over JULIUS CÆSAR and MARK ANTONY.

One play only in the published collection of SHAKSPEARE'S works yet remains to be noticed. And my notice will be of the briefest—first, because the tragedy degenerates into the horrible; next, because it is quite unfitted for the stage; and, last, because I do not believe it to be SHAKSPEARE'S work.

TM. To-morrow, an it please your Majesty
To hunt the panther and the hart with me,
With horn and hound, we'll give your grace bon-jour.
Sat. Be it so, Titus, and gramercy too.—(End of Act I.)

Could SHAKSPEARE at any time have written such lines as these? It is true that "the most lamentable Romaine Tragedie of Titus Andronicus" was published in quarto as early as 1600. A ballad and a book bearing much the same title were entered on the stationers' register, February 6, 1593. Ben Jonson tells us (in 1614) that the play of Andronicus had been more or less popular for twenty-five or thirty years, so that it must have been acted as early as 1589 or even 1584.

A great while ago the world begun,
With hey, ho, the wind and the rain,
But that's all one, my work is done.
• • • • •

* The Queen, according to the text, which follows history in this particular appeared often "in the habiliments of the goddess, Isis"—the goddess of the Moon; in other words, in a long, transparent, fine linen tunic, and a pallium fastened by a knot in front, a crown of lotus flowers on her head, and a sistrum in her hand.

WHAT IS AN "ACT OF GOD" IN LAW

A QUESTION of some importance to architects and contractors, besides being of general public interest, was recently discussed in the case of *NICHOLS v. MARSLAND*, in the Exchequer Chamber. It referred to what events may fall within the description of those inevitable contingencies against which a man is neither able nor expected to provide, and termed in law "Vis Major," or the Act of God.

The expression itself means anything, for every operation of nature may in one sense be considered an Act of God; and no doubt, as Mr. M'INTYRE, one of the Counsel, said, a shower is as much an Act of God as a storm. But a shower is not an Act of God in the limited sense in which the expression is applied in law, and it will be our object to endeavour to define this limitation as clearly as we may, and to show under what circumstances a man is held to be excused from the consequences of any accident happening to himself or his property, and causing injury to his neighbour without any personal neglect or default on his own part.

In the case we have alluded to it was conceded that the defendant had properly constructed and kept in repair the banks and weirs of a certain reservoir which was the cause of the damage. Due care and precautions had been taken to provide against all ordinary emergencies, and the accident that occurred with its resulting injury to the plaintiff's property were caused by an unusually violent storm. Could such an occurrence be deemed the Act of God so as to free the defendant from responsibility for the damage resulting therefrom?

The maxim of law "Actus Dei nemini facit injuriam" (the Act of God is so treated by the law as to affect no one injuriously) is explained in BROOM'S "Legal Maxims" as follows:—"It would be unreasonable that those things which are inevitable by the Act of God, which no industry can avoid, no policy prevent, should be construed to the prejudice of any person in whom there has been no laches." The Act of God is defined by Lord MANSFIELD to be any inevitable accident occurring without the intervention of man, and may indeed be considered to mean something in opposition to the act of man, as storms, tempests, and lightning. In "Abbott on Shipping" it is said—"The expression Act of God denotes natural accidents, such as lightning, earthquakes and tempests, and not accidents arising from the negligence of man." It is elsewhere laid down that the accident must not only be unavoidable, but natural and not directly or indirectly occasioned by the act of man, and Mr. Justice HEATH ruled in *SMITH v. SHEPHERD* that the Act of God which could excuse the defendant must be immediate, that is to say, the direct and immediate cause of the accident. Baron MARTIN said the Act of God means something overwhelming, and not merely an accidental circumstance.

The line of definition will, we think, be most clearly drawn by contrasting the leading case of *RYLANDS v. FLETCHER* with the one now under notice, and showing in what respects two cases so seemingly on all fours are distinguishable. In the former case the defendant was owner of a mill standing on land adjoining that under which the plaintiff worked his mines. The defendant, desiring to construct a reservoir, employed competent persons—an engineer and contractor—to construct it. In his land were certain disused shafts, apparently filled with marl and earth from the surrounding land, and connected with the workings of the plaintiff's mines. No care was taken by the engineer or contractor to block up these shafts, and shortly after the water had been introduced into the reservoir it broke through some of the shafts, flowed through the old passages, and flooded plaintiff's mine. Mr. Justice BLACKBURN, in his judgment in the Court of Exchequer Chamber, states the opinion of that Court as to the law in these words:—

We think that the true rule of law is that the person who, for his own purposes, brings on his land and collects and keeps there anything likely to do mischief if it escapes must keep it in at his peril, and if he does not do so is *prima facie* answerable for all the damage which is the natural consequence of its escape; he can excuse himself by showing that the escape was owing to the plaintiff's default, or, perhaps, that the escape was the consequence of *vis major* or the Act of God, but as nothing of this sort exists here it is unnecessary to inquire what excuse would be sufficient. The general rule, as above stated, seems on principle just. The person whose grass or corn is eaten down by the escaping cattle of his neighbour, or whose mine is flooded by the water from his neighbour's reservoir, or whose cellar is invaded by the filth of his neighbour's privy, or whose habitation is made unhealthy by the fumes and noisome vapours of his neighbour's alkali works, is damaged without any fault of his own, and it seems but reasonable and just that the neighbour who has brought something on his own property (which was not naturally there), harmless to others so long as it is confined to his own property, but which he knows will be mischievous if it gets on his neighbour's, should be obliged to make good the damage which ensues if he does not succeed in confining it to his own property. But for his act in bringing it there no mischief would have accrued, and it seems but just that he should at his peril keep it there so that no mischief may accrue, or answer for the natural and anticipated consequence.

The damage caused to the plaintiff's mine was neither the immediate nor natural consequence of defendant's act. The water did not percolate through the natural strata into the de-

defendant's mine, but the flooding was caused by the water bursting through the artificial disused shafts and could not thus be considered such an inevitable, immediate and natural contingency as to excuse the defendant from the consequence as the Act of God or *vis major*.

It was, however, otherwise in *NICHOLS v. MARSLAND*, the case under notice, where the reservoir was carefully constructed to meet all contingencies that could be anticipated; the contingency that arose was inevitable, immediate, and natural, and was such an event as the defendant could not reasonably be expected to anticipate, such a contingency only can be considered to arise from *vis major* or the Act of God. But, as Mr. Baron MARTIN said, it must be something overwhelming and not merely an accidental circumstance. It would be then a question of evidence whether the storm was merely such a flush or overflow as may have been effectually provided against, or such an overwhelming and, in a sense, supernatural occurrence as would render futile all ordinary precautions. We must take it as a fact in this case that the jury found so, and the defendant was, therefore, held to be excused from the damage caused by the accident.

Every man has a right to use his own property in such a manner as may advantage him provided he do not in so doing injure that of his neighbour—"sic uti suo, ut non laedat alienum." This is a fundamental legal axiom; supposing I choose, for my own advantage, to bring several hundred tons of bricks on my land; the bricks are harmless so long as they remain where they are placed, but if I build a chimney-shaft 200 feet high and it is struck by lightning and falls and does injury to my neighbour, am I liable? I am using my property in a proper and reasonable way, I have used proper care in the construction of the chimney; but if I put bricks or water in a situation that exposes either to unusual contingencies I must take unusual precautions, and if I raise a chimney-shaft to a great height and expose it to an extraordinary danger from lightning, I must take the precaution of guarding specially against that danger by erecting a lightning conductor, otherwise I should be liable for the injury done to my neighbour.

If a church spire be struck by lightning and rendered so insecure that it is in imminent danger of falling, and in repairing the damage the spire falls, and injury is done to the surrounding property, could such an accident be ascribed to the Act of God?

It would be a question of evidence whether there was any negligence intervening during the period when the spire was struck by the lightning, and its fall. For if the negligent act of a workman in underbuilding or repairing the injured portion of the spire contributed in any material degree to accelerate the fall, the accident would not come within the definition, for the Act of God, in order to afford a ground of defence in such cases, must be the immediate and not the remote cause of the injury.

And if it appear from the evidence that a workman has failed to exercise proper care in repairing the spire; that he has, for instance, negligently removed certain stones which, by the exercise of proper skill, he would know to be essential to the stability of the spire, and thus become the immediate cause of its fall, the plea that the accident resulted from the Act of God will not avail to relieve the responsible parties from liability. For here there is a negligent act of man intervening which rendered the striking of the spire by lightning, or the Act of God, the remote, and not the immediate, cause.

The railway accident near Oxford in December, 1874, may be taken as an illustration of the Act of God. Here every precaution that experience or science could suggest had been taken for the safety of the passengers, and the jury found, after a careful inquiry, that due care had been exercised. The accident was caused by the breaking of the tire of a wheel owing to the severe frost, and was one of those natural and overwhelming contingencies which may properly be called an Act of God, and as such the railway company were exonerated from liability. There are cases, however, in which other considerations arise. Where there is a general covenant by the lessee to repair and leave repaired at the end of the term, the lessee is clearly liable to rebuild in case of the destruction of the premises by any unavoidable contingency, as lightning or an extraordinary flood. An exception of accidents by fire and tempests is now usually introduced into leases.

To take another illustration. If a man keeps a tiger and the lightning breaks his chain, and he get loose and do mischief, is the man who kept him liable?

The question that here arises is, what may be considered a reasonable use of your property in a way beneficial to the community? and the LORD CHIEF BARON evidently considered, in his judgment in "*NICHOLS v. MARSLAND*," that liability would attach in such a case.

There must then be, in the first instance, a reasonable use of your property in a way beneficial to the community. Granting this to be so, the Act of God is any natural, inevitable and overwhelming accident occurring without the intervention of man, and being the immediate cause of the injury complained of.

It would be well if the leading principles relating to the law of negligence were more studied and better understood by architects, who, in the exercise of their profession, often undertake the supervision and control of important works. Such a knowledge would give confidence, and secure both themselves and their employers against difficulties easily avoided if foreseen.

THE ANNUAL CONVERSAZIONE OF THE INSTITUTE OF ARCHITECTS.

THE pleasant gathering which annually takes place at the close of the session of the Royal Institute of British Architects was held on Wednesday evening under circumstances in every way satisfactory. We always think the house in Conduit Street (if it were a little better ventilated) is particularly well suited for an occasion of this kind, possessing the most important requisites of spaciousness and variety without pretentiousness or excess of room; and this year it must be owned that the utmost was made of their accommodation. The distinguished President Sir G. GILBERT SCOTT received the company, attended by the whole number of vice-presidents Messrs. CURREY, VULLIAMY, and WHITCHORD, the secretaries Mr. COCKRELL and Mr. EASTLAKE, and various members of the Council. There was a large display of works of art in every variety on the tables and walls; and according to the usage of the day, a military band still further enlivened the proceedings, whilst the customary garniture of flowers was not wanting. Amongst the guests there was a considerable proportion of ladies, who not only added personal grace to the assembly, but appeared to take great interest in the artistic collection. Of the gentlemen who honoured the Institute by their presence we may name Cardinal MANNING, Mr. EDWIN CHADWICK, O.B., Mr. BEAUVINGTON ATKINSON, Dr. BAKLOW, Mr. GIBBS, R.A., Sir FRANCIS HICKS, Sir RUTHERFORD ALCOCK, K.C.B., Professor BUND, Sir J. CODRINGTON, K.C.B., and Dr. SIMMONS. Speaking quite at random of the artistic collection, we may mention the pictures lent by Mr. MARSDEN, which are both interesting and valuable, including the little Meissonier which was lately sold for 1,200*l.*, being in dimension six inches by four; the elegant cabinets and other furniture shown by Messrs. JACKSON & GRAHAM, GREGORY, and others; a variety of needlework in portieres and other articles; and a fine selection of Persian and other Oriental embroidery lent by Mr. McCALLUM; specimens of ecclesiastical embroidery and other art examples lent by Messrs. TROLLOPE; a variety of antique lace work of great merit lent by Mr. T. WELLS; portfolios of sketches by Mr. WATERHOUSE and others; artistic metal work by Mr. EASTLAKE; many fine vases and other articles of fictile ware lent by Messrs. MINTON, Mr. MORTLOCK, Mr. STEVENSON, and others; Venetian glass and mirrors by M. SALVIATI; besides various architectural pictures by NASH and other masters, drawings by Mr. SPIERS and Mr. ASTON WEBB, some particularly good figure drawings by Mr. HEMY representing the Four Seasons, and several of the admirable originals of the Arundel Society's published works. The company arrived more punctually than usual and remained till a late hour. We congratulate the Institute upon so successful a meeting.

OXFORD UNIVERSITY EXTENSION.

THE Report of the committee appointed to consider the requirements of the University of Oxford contains the following estimate of the new works required for the University Buildings. The Report has been adopted by council and is circulated for the information of members of Convocation:—

I. Bodley's Library—

1. The Curators of the Library report that the sum at their command for the general purposes of the Library and the Camera is quite inadequate, and calculate that an additional sum of 2,000*l.* a year ought to be allowed.
2. Repairs of external fabric (as calculated by Captain Galton), which "might be spread over some years" 7,500 0 0
3. Internal Repairs—
4. Fitting up of Proscholium, including cases, say 2,000 0 0
5. Future adaptation of the Schools to the purposes of the Library, building party-walls, &c., as Captain Galton recommends 12,150 0 6

II. Ashmole's Museum.—More space will be required for collections of objects to illustrate Archaeology and Art.

III. University Galleries.—There is little or no space for adding to the collections.

IV. University Observatory—

V. Botanic Garden.—If it is to remain where it is, the lease being renewed, considerable amount of reconstruction is required, estimated by Mr. Field at £2,500 0 0 } say 4,500 0 0
and by Dr. Hooker at 5,250 0 0 }
If it is to be removed to the Parks, a much larger outlay will be required.

VI. University Museum—

1. The roof is in urgent need of repairs, calculated by Mr. Brunel at 2,300 0 6
 2. The Heads of the three chief Departments (Chemistry, Biology, Physics) report that additional buildings are required in each of the three, roughly estimated in all at 30,000 0 0
- VII. New Schools, say 50,000 0 0

VIII. Additional Lecture-rooms are urgently needed for Professors and Public Lecturers.

IX. Offices are required for the Unattached Students, for the Delegates of Local Examinations, &c.

CHURCH SPIRES.

THE following Paper was read by the Ven. Archdeacon Trollope, at the meeting last week of the Lincoln Diocesan Architectural Society, at Grantham:—

As it usually falls to my lot to take part in catering for the entertainment of our members and friends on the occasion of the society's annual meetings, I have been led to consider what would be an appropriate subject for a Paper at Grantham, when what I hope may be considered a happy thought struck me, that Church Spires would be one of all others most proper, considering what a noble specimen of such features rises up from the midst of this town, so as to constitute its most conspicuous ornament, often visible from a distance by day, when all the town below is bathed in mist, and by night, when it cuts the sky, against which it clearly shows, when all else is reposing in the deepest shade. Such is the important architectural feature that constitutes the basis of my present Paper; and yet after all it is but the roof of St. Wolfran's tower.

Belfries, or towers, constructed for the reception of bells of large size, first arose when such bells began to be presented to churches, or in the ninth century. Some of the earliest towers were circular, such as the famous round towers of Ireland, generally alike in construction, and covered with low conical roofs, which form was subsequently adopted in Norfolk and other stoneless districts for church towers, from the want of freestone, almost necessary for the construction of angular towers; but were usually square and covered by a low pyramidal roof of wood or shingle, afterwards exchanged for the more durable materials of stone or lead. Yet this simple mode of covering church towers was not the only one adopted at an early period; for in France a stone dome was boldly erected as a roof to several towers of the eleventh century, such as that of St. Front de Perigueux, of the earlier part of that period, which has a circular upper stage surmounted by a stone dome, of an ogee outline, entirely covered with bands of vertical scales, and surmounted by a small cross, and that of L'Abbaye des Dames at Saintes, of the close of the eleventh century, the arched roof of which terminates in angle pinnacles, and a circular upper stage enriched by pillars, and is pierced with semicircular-headed lights, and covered by a stone dome of the same peculiar character as that of St. Front de Perigueux. Nor was such a tower roof confined to the eleventh century, for in the following one we again find a dome placed on the tower of the collegiate church of Poissy, which, although octagonal, retains much of the general form of the above-named earlier examples.

Another early mode of roofing towers is not generally known—viz. the gabling of each of their walls, from the points of which arose a low pyramidal roof covering the spaces between the gables, a specimen of which fortunately still remains at Sompting, in Sussex. Possibly there were many others of this kind, but I believe that almost without exception all our other very early towers have lost their original roofs and coping, which have been replaced by later substitutes, and that there is no authority for the plain parapet now usually given to them, and thought to be an appropriate finish to such towers. Another mode of covering towers, having such gables, was to supply them with cruciform span-roofs, which prevailed at a later period; but in other cases only two of their walls had gables, between which was a single span roof. The early pyramidal roofs of church towers, whether of stone, or timber covered with lead, gradually rose in height, at first perhaps the better to throw off rain and snow, but soon from sympathy with the lofty church roofs of the Early English period, and from a perception of the additional beauty they gave not only to towers themselves, but to the general composition of churches. Then, the simple quadrilateral pyramidal roof, covering all four walls of the tower below, was exchanged for an octangular one, four sides of which rested upon its walls, and the others upon arches thrown across their angles, technically called "squinchies," beyond which it was necessary to add coverings to the exposed angles, which we may appropriately term "angle hoods." This adoption of octangular tower roofs, having angle hoods, rendered them not only more complete, but more beautiful, and especially when they had so risen in height as rightly to obtain the name of spires and might be described as lofty octangular cones, usually pierced with three tiers of graduated lights, and terminating in a conventional four-leaved finial, with a bud in the centre. It is instructive to watch how the low square pyramidal roof changed into the octangular one with angle hoods, rose higher and higher, was pierced with tiers of lights, and enriched with graduated angle crockets, until the idea of their being roofs is hardly recognised, and they are simply considered to be conspicuous and beautiful ornaments of our churches.

A spire, which, with the aid of angle hoods, visibly covers the tower walls below, is, from its pointed form, called a broach spire, from the French word "*broche*," or spit; and in France any spire is more properly called a "*fleche*," from its resemblance to an arrow head; but as all spires are of the same pointed form, the term broach is unreasonably applied to this particular kind of spire, which more nearly retains the idea of its serving as a roof to a tower than those of a later time. The next change was the addition of a parapet, which of course concealed the point of junction between towers and spires, and thus led to great difficulties. Apparent rupture between them is the first result, and when parapets are lofty, or the bases of spires spring from levels much below the tops of tower walls, the uncomfortable idea that the spires are sinking within the towers below them is at once produced, as was actually the case at Chichester cathedral, when its spire fell bodily within the tower below. Another difficulty is an often unhappy discrepancy between the angles of towers and the lines of their spires, from a want of sufficient connection between the two. This was sought to be obviated by open parapets, partly revealing the spreading bases of the spires behind them, and also by very important additions to the angles of towers, viz., pinnacles, repeating in miniature the spire in the midst, and partly filling up the angular spaces between it and the square outline of the tower below. Then a further expedient was adopted, and often with great success, viz., the erection of flying buttresses between spires and their

angle pinnacles; but this violent departure from the true and natural form of a roof or spire, for a square tower, led to great difficulties, which were not well met in very many cases.

We must, of course, grant that an octangular spire upon a square tower is a most beautiful device; but to blend such features together well requires great skill and taste, which all architects did not possess formerly, and perhaps we could still find some who are equally unfortunate now. To design a tower and spire well is indeed a very difficult task for any architect, because each of these must assimilate with each other, and with the church to which they are attached. For instance, the spire may be too short or too tall for the tower from which it springs; its base may be too much concealed by the tower parapet; the supporting pinnacles may be too heavy or too slight; the flying buttresses may be far too light, and not have a pleasing inclination; so that, after all, these expedients for allying a tower with a spire may prove absolute failures through a want of skill and taste on the part of some architects, although their more accomplished brethren can now, as well as in the days of old, design towers and spires of surpassing beauty sure to satisfy the most critical eye from every point of view, through the harmony of their conjunction and composition. Again, spire lights often mar the beauty of well proportioned spires through the over-heaviness of their projecting features, which interrupt the spire lines in an aggravating manner, or they may not be pleasingly graduated. And then the entasis of a spire is not unfrequently far too great, and becomes a conspicuous characteristic of it, instead of a scientific expedient intended to obviate an optical defect, in an undetected manner; or it may be spoilt by its culminating feature, namely, an unworthy finial, offending by its size or character. The construction of tower staircases is another difficulty that also affects the appearance of the spires above them, because they not unfrequently terminate in master pinnacles differing in size from their companions, which variation may either disfigure the general composition, or from its very variation add to its picturesque quality, according to the skill and taste of their designers; and there is many a spire that, from this and other similar causes, looks well from some points of view, but ill from others. Fully aware of this, our architects, who aim at complete success in designing these striking features, will not be wise if they rest satisfied with drawing elevations of spires from one point of view without also very carefully studying how they will look in perspective from all points of view.

As an example of a beautiful spire, I do not think I can put any before that of Grantham church, unless it is to be found at Salisbury; nor that, if submitted to competition, it would fail to bear off the palm. Its proportion, with respect to the tower it surmounts, is excellent, its height is amply sufficient, its entasis is correct, its lights diversify without interfering too much with its main lines, its low parapet allows the angle hoods above to be partly seen, and thus to serve as connecting links between it and the tower; its angle pinnacles are well proportioned, serving as supporting and yet quite subordinate features at its base, and its crockets are good and well applied; but it is not perfect, and for a long time has not given complete satisfaction. Many cannot tell why but they feel that something is still wanting; although, therefore, as Camden truly says, that Grantham "is set forth with a fair church, having a spire steeple of mighty height," he adds, "whereof there go many fabulous tales." One of these probably was that it did not rise straight from the tower, because Cleveland, a poet of the time of Charles II., accounts for this old delusion by saying "Tis height makes Grantham steeple stand awry," or rather appear to do so. Now there probably was a time when no such fabulous tales were rife and none questioned the perfect beauty of this spire, i.e., before its upper part was seriously injured by lightning, once in 1652 and then again in 1797. After the first catastrophe the upper part was taken down, and not rebuilt until 1664, and even then, in all probability, not precisely as before; whilst after the second catastrophe it was certainly reconstructed in a very unskilful manner, when neither its outline, crockets, ranges, nor finial were made to resemble what they were originally, in which condition the top of Grantham spire remains to this day. When the great work of restoring this noble church was in hand, so large was the sum required to effect it, that the repair of the spire was necessarily postponed, but I earnestly hope that this postponement will shortly come to an end. We have now not only a noble church here, but one that has been nobly restored by the parishioners and their friends, and now I would crown them for their good work, and crown that work also with a fitting coronal, which they both so well deserve. No object in this ancient borough of Grantham is so conspicuous as its great church; and of that church no feature is so conspicuous as its spire, which is daily seen by thousands of strangers, in addition to the population living habitually around its base, and seen with admiration; but yet astonishment is mingled with their admiration at the imperfection of its apex, where a millstone is said to be doing rough and ready service, instead of a carefully moulded stone; some of its crockets are gone like lost upper notes, disturbing the harmony of its composition, and even part of its original height is lost, as well as an infinitely more graceful finial and vane than their present unworthy representatives. Let me earnestly plead for the speedy removal of this imperfection, so evident to that great human tide of travellers daily overlooking this ancient town, and for the perfection of that which casts the shadow of its great beauty over it—the spire of St. Wolfran's church of Grantham, in which act I feel confident all the many members of those Architectural Societies, of which our own may justly claim to be one of the first, will heartily concur.

All Saints' Church, Hillesden, was reopened last week by the Bishop of Oxford, having undergone considerable renovation, the work being carried out from the designs of Sir Gilbert Scott, who gave his services, drawings, and designs gratuitously; and under the superintendence of Mr. Hannaford. The work already done has cost 2,300*l.*, and the sum of 600*l.* is now required to finish it. The builders are Messrs. Franklin, Deddington.

DURHAM CATHEDRAL.

THE following "communicated article" appears in the last number of the *Durham Chronicle*:—

"When will the Cathedral be completed? This is a question which every visitor asks, and to which no citizen can give a satisfactory answer. Two years was the period originally assigned for the repairs, but twice two years have come and gone and yet the great work remains unfinished, and that provoking wooden screen continues as impenetrable as ever. Time is a very expensible thing, and means much when you are waiting to be pleasantly married, but crushes into small compass if you are about to be hanged.

When asked, however, by the curious stranger when the alterations will be concluded, it is not at all agreeable to have to tell him that nobody knows, and that he must return in two years from this, or any other date, if he wishes to see the building in all its renovated pride.

But there is a still more important question—how will the Cathedral be finished? Here is a fine old Norman temple, the very merit of which lies in its massive simplicity, and in what may be called its pure unadulterated grandeur. To deprive it of this character, and graft upon it any florid features, would be simply an outrage upon all architectural propriety. An old Cathedral is certainly a national heir-loom, and ought to be handed down from generation to generation in all its integrity. Its custodians have no more right to change its main characteristics than they would have to convert it into a Barracks or a County Hospital.

But there are whispers afloat that behind that screen alterations of no trifling import are in progress or in contemplation. Is it true that the Norman choir is to be cut off from the Norman nave by an elaborate alabaster screen of the late-Perpendicular school, filled up with metal-work made gorgeous with red, yellow, and blue?

Is it true that the old 'Communion Rails' of Stanhope marble have been condemned, indeed destroyed, and that they are to be replaced by a huge brass bar, supported upon pillars of painted metal?

Is it true that a variegated pavement of the fashion of the Italian Renaissance is to be laid down in the choir, and that the new pulpit is to belong to the Lombard Romanesque?

Are the old Caroline stalls to be advanced so as to lessen the available space, although the increasing congregations which attend the minster require greater instead of smaller accommodation?

All this may be mere rumour, but if it is reality, will not Durham Cathedral forfeit its reputation, and become a mongrel structure with bizarre decorations? Will not a stranger feel like a visitor to the Crystal Palace, where you step from a Roman atrium into a Moorish hall, and walk right out of Pompeii into the midst of the Alhambra.

It is in no carping spirit that attention is now drawn to this subject. Durham Abbey is dear to the public. It may be called (if we exclude the chapel of the Nine Altars, which is of later erection) the one pure Norman Cathedral in England. As such, it possesses more than an ordinary national interest, and ought to be honestly, as well as lovingly upheld. The Dean and Chapter are not the men to forget that they are trustees for the benefit of the public, and also for the behoof of posterity, particularly at a time when the enemies of the Church are anxious to strip it of its property, and glad to fasten upon anything which will give countenance to their principles of spoliation.

Should the whispers in question be correct, however, there can be no doubt that the public will, in a great measure, regard the proceedings as entirely retrograde in their character. The policy of Dean Waddington was large and consistent, his leading idea being to open out the Cathedral, and make it one great temple, instead of a set of separate chapels or enclosures. Down went the huge wooden partition which divided the choir from the nave, and the eye ran from one end of the noble fabric to the other without interruption, dwelling delightedly upon one of the finest sweeps of vision in the world. To a pious mind the first look on entering at the upper door was in itself a little sermon on Immensity, and formed a fitting prelude to the devotions of the place. The course adopted by Dean Waddington was generally approved, and large sums were expended in executing the scheme, his own contributions to the improvement of the Cathedral being on a munificent scale. To revoke that policy would surely be a mistake, and not only offend public feeling, but constitute a waste of ecclesiastical funds.

In the present delicate position of the Church—agitation within and unscrupulous aggression without—it is important to avoid every step which would occasion needless excitement or distrust. Is it any wonder in these days of affected symbolism that people should become suspicious of things which, in a manlier age, when a 'spade' could be called a 'spade,' and a wax candle treated as a wax candle and nothing more, would have awakened no remark? Consider the proposed new screen, for example. What is its precise purpose? Why should the choir be railled in when it was studiously opened out under the auspices of the late Dean? Obviously the use of a screen is to effect, or at least to denote, a separation. Between whom? Rich and poor, gentle and simple, the quality and the canaille? This we cannot believe for a moment. Then can it be between the clergy and the laity? And is that decorated barrier to constitute a line of demarcation between sacerdotalism on the one side, and lay devotion on the other? There may be no such meaning about it, but it would be satisfactory to learn from the Dean and Chapter that no such design is entertained, that the choir will be as free for the public as before, and that in Durham Cathedral, as in every honest Protestant church, priest and layman are held to be equal before God.

May we venture to suggest a question or two for the consideration of the capitular body? It is composed of honourable men, who will doubtless wish to deal honourably with the public as well as with themselves. They will not refuse to ask themselves frankly—1st. Are we the owners or simply the guardians of this noble Church? 2nd. Is it a Norman temple, or a mongrel fane admitting of a medley of styles and a jumble of architectural incongruities? 3rd. Is neutral ground like this a place which ought to be desecrated by anything like sickly sentimentalism, or by creeping ap-

proaches to Ritualism or Romanism? 4th. Are the purposes we have in view, if honestly avowed, purposes which the public at large will approve, and purposes which will justify the expenditure of such a large amount of ecclesiastical funds?

Let these questions be frankly put and frankly answered, and the Dean and Chapter will doubtless conclude, that as trustees of a great national edifice, it is their duty to preserve the character of Durham Cathedral unimpaired, and loyally to uphold the majestic fabric in all its Protestant integrity."

In reference to the above, or rather to the *Times* version of it, Sir Gilbert Scott writes as follows:—

"Having just seen in the *Times* of this morning a series of statements relating to the works now progressing in the choir of the above-named Cathedral, apparently founded on a corresponding series of inquiries contained in a letter which has appeared in a local paper, I do not lose a day in replying to those inquiries through the medium of your columns. I will, however, premise by saying that no analogy whatever exists between the works in question and those proposed for the decoration of St. Paul's.

In the first place, then, allow me to state that no 'showy embellishments of a florid Perpendicular style' have ever been proposed or so much as thought of, and that no 'brass bar,' but a very fine brass altar rail, is proposed, not in place of an old marble altar rail, but of one of modern date, which was not liked. But this is a point I personally do not care much about, nor had myself proposed. No Renaissance pavement is proposed, but a rich one in early style, instead of a very poor modern one. The pulpit, it is true, is Romanesque, as is the Cathedral itself; but I am not aware that it is 'Lombard,' though it is true that it rests on sculptured lions. It is true, also, that a very open and wholly non-obstructive screen is proposed, which is, in my opinion—an opinion I have for many years felt and expressed—essential to the grandeur of the Cathedral.

The old and solid screen was very properly removed in the time of the late Dean; but to leave the choir wholly without any kind of screen was an anomaly and stands alone among English cathedrals, and, as I have always felt, has produced such an exaggeration of the popular theory of a 'vista' as to convert the most grand and solemn of our cathedrals into something like a magnified corridor."

SALE OF PICTURES.

ON Monday Messrs. Christie, Manson & Woods sold at their rooms, King Street, St. James's, a collection of pictures and water-colour drawings. Among the water-colours sold were Brunnen and the Schweits Mountains, Lake Lucerne, a beautiful painting by J. M. W. Turner, R.A.—480 guineas. Lyme Regis, by the same artist—390 guineas. Dead Pigeons, by W. Hunt—71 guineas. Ben Lomond, from the head of the loch, by Copley Fielding—240 guineas. The Pyramids, by C. Stanfield, R.A.—72 guineas. A Couple of Hounds, by Rosa Bonheur—170 guineas. A Scene in North Wales, near Capel Curig, by F. W. Topham—100 guineas. The Cathedral Door, by G. Cattermole—145 guineas. A Lady in an Ermine Cloak, by F. Cotes—52 guineas. Unloading Fishing Boats, by E. Duncan—105 guineas. Pictures: A Gateway at Cairo, by F. Goodall, R.A.—166 guineas. The Cool Retreat, by W. E. Frost—58 guineas. A Landscape, by F. W. Hulme—54 guineas. A Landscape, with cattle, by J. B. Payne and T. S. Cooper, R.A.—80 guineas. A Landscape, by P. Nasmyth—115 guineas. The Fisherman's Return, by J. J. Hill—105 guineas. The Salmon Trap at Bettw-y-Cood, by D. Cox, from the Bullock collection—61 guineas. The Lake at Capel Curig, North Wales, by B. W. Leader—100 guineas. The Grand Canal, Venice—with the Rialto, by J. Holland—330 guineas. The Mountain Shower, by J. B. Payne—54 guineas. Bringing Home the Flock—Evening, by D. Cox, 1850—380 guineas. The Toilet, by J. P. Leon Glaise—60 guineas. Sabina and Nympha, by W. E. Frost, R.A.—150 guineas. Sweet Anne Page, by R. H. Calderon, R.A.—60 guineas. Imogene and Pisanio, by P. F. Poole—145 guineas. The Lonely Shepherd, by J. Israels—270 guineas. Falstaff's Own Brigade, by H. S. Marks, A.R.A.—200 guineas. The Conspirators, by P. F. Poole, R.A.—230 guineas. Allée de Hertres, by J. F. Coosemans—115 guineas. A pair of views of Venice, by Canaletti—54 guineas. Susannah and the Elders, by Guido—72 guineas. Review of the Fleet at Spithead, by R. N. Nibbs—50 guineas. A Welsh Valley with a Cornfield: Sunset, by T. Danby—70 guineas. Lake Scenes with Figures and Cattle, a pair, by the same artist—82 guineas. A Girl at a Spring, by P. F. Poole—57 guineas. Cordelia Banished, by the same artist—67 guineas.

ANCIENT ROMAN SCULPTURE.

THE *Levant Herald* announces that the Ottoman Museum of Antiquities at Constantinople has just made a valuable acquisition:—Two life-size statues of Roman workmanship, which were lately found in Crete, and appropriated by the Government, arrived here the other day, and have since been added to the collection in the church of St. Irene at Stamboul. According to Dr. Déthier, the director of the museum, they are chiefly interesting as monuments of the moral and intellectual decadence into which the mass of the Roman people had fallen in the days of Nero. These statues both represent females. A tolerably legible inscription on the pedestal of one of them labels the statue as that of Claudia, the daughter of Nero by his second wife Poppea, who, though she lived to the age of only four months, was raised by an Imperial edict to the rank of a deity, and was honoured with altars and temples. The sculptor has, however, represented his subject as a maiden seventeen or eighteen years of age, and has endowed her with an elaborate coiffure. The second statue is thought by the learned doctor to be intended for Poppea, the wife of Nero; but the inscription on the pedestal no longer exists, having been erased probably during the period of reaction against the brutality of Nero which followed that monarch's sanguinary reign.

THE CRUIKSHANK TESTIMONIAL.

WE are glad to find that a committee has been formed to purchase Mr. George Cruikshank's collection of his own etchings. Some time since we announced that steps were being taken to present the oldest of living artists with a testimonial in recognition, not only of his merit as an artist, but of his services as a social reformer, and we endeavoured to recommend the project to the consideration of the public. With characteristic independence Mr. Cruikshank has, however, declined to accept a testimonial which may appear to take the form of a gift. He considers that if the public care to recognise any merit in what he has been doing since the very beginning of the century, there is no more appropriate way of manifesting this than by contributing funds to purchase the collection which, as representative of his work, is all but complete. It is with this object that the committee has been formed. The chairman is Dr. B. W. Richardson, the treasurer is Mr. Reid, the Keeper of Prints and Drawings in the British Museum, and the Rev. Charles Rogers is honorary secretary. The committee have found that the collection consists of eleven hundred examples of etchings and sketches, with some water-colours and oil paintings, and the price set upon it is 3,000*l.*, which, estimating by what is paid every day for some of Mr. Cruikshank's rarer etchings, is not too high. The drawings date from as far back as 1799, and they come down to the present, for the artist is still able to etch a plate with vigour. When it is remembered that he always represented events with the accuracy of a photograph, a collection which so fully illustrates the characteristics of a period of that length must, from its historic interest alone, be of the utmost value to the Englishmen of the future. There are drawings of such events as the funeral of Lord Nelson in 1805, the arrest of Sir Francis Burdett in 1810, the Cato Street Conspiracy in 1820, and views of places long since transformed. Then there are the capital hits at the absurdities of English costume from about 1805, always a favourite subject with the artist, and the almost innumerable humorous sketches of old-fashioned days when there were mail coaches and close boroughs.

The well-known series of book illustrations comprised in the collection are of a different and it may be a higher order than the social sketches. Here are the water-colour sketches for those most dramatic etchings which appeared in Maxwell's "History of the Irish Rebellion," a book which from the first was valued solely for its illustrations. It is needless to go over the list of the immense number of works which come under this head. Everyone is familiar with the illustrations to the "Sketches by Boz," to "Oliver Twist," to "The Tower of London," "The Miser's Daughter," to some of the Waverley Novels, and the dainty plates in the "Fairy Library." Mr. Cruikshank's illustrations of "Grimm's German Stories" alone have led to the republication of the volumes. "If," says Mr. Ruskin, "you happen to meet with two volumes of 'Grimm's German Stories,' illustrated by Cruikshank, pounce upon them instantly; the etchings are the finest things, next to Rembrandt's, that have been done since etching was invented. You cannot look at them too much or copy them too often."

It would be difficult to say how much benefit has been derived from Mr. Cruikshank's drawings. He says himself that his plate of "A Bank Note not to be Circulated," which had reference to the execution of some women for passing one pound forged notes, led to the stopping of hanging for all minor offences. And the Committee are not exaggerating when they state that "By his satirical sketches he has exposed pretext, and swept from society and the statute book many revolting abuses. While promoting humour he has strongly rebuked vice. His pencil has been the handmaid of morality, and his most playful designs have imparted wisdom. His illustrated publications have cheered the old and amused the young; while his cartoons have found admission where less attractive monitors have been repelled. His 'One Pound Bank Note,' his 'Bottle,' and his 'Worship of Bacchus' stamp him as the most philanthropic artist of his age." Yet it must be owned that in return for about seventy years of service the country has not done much to reward George Cruikshank. All that he now desires is that his works may be secured permanently to the country. It is true that in the British Museum and in other places collections of his works more or less complete are to be found, but none of them can hereafter have an interest like that which is now sought to be purchased. When the testimonial was first projected a few years since it was not supported as generously as was anticipated, but now that a substantial return can arise to the country, if subscriptions to the amount of 3,000*l.* are obtained, it is to be hoped that there will be a general response to the appeal of the committee.

THE COCKBURN ASSOCIATION, EDINBURGH.

A MEETING of persons interested in preserving and extending the beauties of Edinburgh and its neighbourhood was held last week for the purpose of considering the expediency of forming an association to carry out those objects. Lord Moncreiff presided.

The CHAIRMAN said that the object they were convened to promote had been earnestly entertained by many leading citizens for many years. Their native town, the city of which they were all so proud, and of which Scotland and Britain had good reason to be proud, if it had not the wealth or the manufactures or the commerce which were the boast and glory of other cities, had at least one quality in which it stood unrivalled, and that was the wonderful natural beauty of its situation and the number of interesting objects by which it was surrounded. He himself had not been a great traveller, but he had seen something of other lands and cities, and he had never anywhere seen anything equal to the beauty of his "own romantic town." Now this was no mere sentiment, because the truth was that the beauty of Edinburgh was one of its most important advantages. It attracted strangers, it delighted the eyes of the citizens every day that they walked the streets, and anything that destroyed or marred it was not only a sentimental but a practical evil and grievance. The object now aimed at was to found an association bearing the revered name of one who was the very embodiment of what a patriotic citizen ought to be—he

meant the late Lord Cockburn—a gentleman who, as far as possible removed from anything like *dilettante* pedantry, not affecting knowledge which he did not share with his neighbours, had yet that innate love of natural beauty which prompted him to come forward many years ago and address a letter to the then Lord Provost, "On the Best Way of Spoiling the Beauties of Edinburgh." The list which was gone through in that very memorable publication, with a power of description of which his Lordship had left other memorials, was quite sufficient of itself to justify the effort now being made. What was proposed was to found an association whose object should be to protect and increase the natural attractions of the city. He was not at all sure that the duty of protection would not be found quite as important, and quite as efficiently performed, as the larger and more doubtful duty, perhaps, of increasing; because what was really required was to have a watchful eye kept by a kind of collective Argus such as the society would present, so that in all quarters those treasures of romantic scenery on which they prided themselves should be protected and respected. A great deal of what Lord Cockburn lamented was due simply to heedlessness, and came about in the progress of events from there being no one at the time to point out how injurious in the long run the operations in question might possibly be. It would, his Lordship went on to say, be a great mistake to suppose that the proposed association was to be antagonistic to any of the town authorities. Their one main object was to be a kind of link between the civic rulers and public opinion outside, and he had no doubt that in many instances it would be quite possible for them to lend great support to the Town Council in its exertions for the improvement of the city. What they wished to be was a nucleus by which public opinion might express itself on matters in which the natural features of this picturesque town were concerned. There were a great many plans and suggestions, and each man probably had his own notion of what it was desirable to do; but he thought it desirable that in the meantime they should keep aloof from committing themselves to any schemes. What they should do was to form their association, and when that was done, they should be able to say to what the opinion of the majority leant, and to judge how far public opinion would be likely to support them in any proposed movement. His Lordship concluded by moving the following resolution:—"It is desirable to form an association with the view of creating general interest in the preservation and increase of the natural attractions of Edinburgh and its neighbourhood, and encouraging efforts for the promotion of the means of healthy and elevating recreation for its inhabitants, and for the purpose of aiding the Magistrates and Town Council in the attainment of those objects."

Sir ROBERT CHRISTISON, Bart., in seconding the resolution, said that there was at the present time reason for taking means to preserve the architectural amenities of Edinburgh. Let any one keep his eyes about him in passing through the streets, and he would frequently find good taste violated by the erections which were in progress. For example, what a hideous deformity was going up at the corner of Castle Street and George Street. Then in many parts of George Street and Princes' Street the width of the street was materially encroached on by the new fronts. Some of those fronts were a great improvement; they were advanced but a little, and they enhanced the appearance of the streets; but others did very much the reverse. Again, instead of using the fine stone which had always been the boast of Edinburgh, many were building shop-fronts of wood, while others were introducing brick and plaster, a most contemptible kind of architecture for a fine town. These were all things going on around, and what, he asked, would be the effect when this example was generally imitated? One gentleman had actually erected, he thought, three, if not four, storeys of a wooden front, and if a fire began there down went the whole edifice and everything in it. The late fearful fire at the Southminster Theatre involved very great danger to the University and the Museum of Science and Art; but now, he understood, the proprietor was going to reerect his theatre in a hole, where, if it took fire again, the embers would be carried to a great distance around. In such a matter an association like that now proposed might most properly be asked by a Town Council to assist them.

The Bishop of EDINBURGH moved that a committee be nominated to consider and adjust the conditions on which such an association should be formed. The committee to consist of Mr. D. Smith, Dr. John Brown, Mr. E. L. I. Blyth, Sir R. Christison, Bart., Mr. R. Herdman, Mr. Jas. Haldane, Mr. Jas. Lorimer, Mr. W. Mitchell, Sir J. Noel Paton, Mr. W. H. Paton, Sir A. Grant, Bart., and Bishop Cotterill.

THE NEW MARKETS, MADRID.

ON the 11th inst. King Alfonso opened two new markets in Madrid, which had been constructed by an English company. The ceremony was performed in the largest and most central of them, the one occupying the site of the old Plaza de la Cebada, opening on the Calle de Toledo, in the midst of the most crowded quarters of the town. The market in the Plaza de la Cebada, like the other in the Plaza de los Mostenses, near the Calle Ancha de San Bernardo, is a lofty structure in the style of the Crystal Palace, and consists of four main rectangular pavilions clustering round a square tower or dome, and opening into three other pavilions, contrived to fill up the corners of the irregular area of the Plaza. It covers 6,400 square metres of ground, and provides accommodation for 426 stalls. Underneath the whole building is a vast cellar, supported by 166 iron stanchions, intended as a store-room for the convenience of the wholesale trade, and accessible to carts and waggons. The whole edifice is lighted with gas, is plentifully supplied with water, and has drains a kilometer in length. Its height from the basement to the roof is 31 metres. The materials throughout are glass and iron, with the exception of the facing of the ground floor, which is strengthened by brickwork, lined with slabs of granite-like stone from the neighbouring Guadarrama mountains. The stalls are of wood, with marble counters. The general aspect combines perfect solidity with elegance. Surrounded as it is by the mean hovels of some of the worst streets in old Madrid, it shines in all its neatness and airiness as a fairy palace.

ILLUSTRATIONS.

RESIDENCE AT SHORTLANDS, KENT.

THIS illustration represents the garden view of a residence which has been erected at Shortlands from the designs and under the superintendence of Mr. CHARLES J. SHOPPER, of No. 61 Doughty Street, Mecklenburgh Square, London.

The materials used were picked stocks for the facings, relieved by bands and arches of red bricks, and sills and heads of Box ground stone. The chimneys are of red bricks.

The roofs are covered with plain tiles, and a portion of the building is weather-tiled.

Internally the joiners' work is of deal, stained and varnished.

The works have been carried out in a satisfactory manner by the Builder, Mr. CROSSLEY, of Beckenham.

RESIDENCE NEAR FARNHAM, SURREY.

THE accompanying illustration represents the garden view of a residence near Farnham, which has been erected from the designs and under the superintendence of Mr. CHARLES J. SHOPPER, of No. 61 Doughty Street, Mecklenburgh Square, London.

The walls have been built hollow, and Fareham bricks have been used throughout for the facings with Tisbury stone dressings, and Fareham moulded bricks for the reveals and arches, relieved by bands of black bricks and dressed flints.

The roofs are covered with local plain tiles, with COOPER'S ridges and hip knobs; the small ventilating turret to larder is covered with oak shingles.

Internally the joiners' work is of deal, stained and varnished; the principal staircase is of wainscot oak, and is lighted by a lantern. The hall and passages are paved with MAW & Co.'s tiles.

The work has been also carried out by Mr. CROSSLEY, of Beckenham, in a satisfactory manner.

NEW CONNEXION CHAPEL, DEWSBURY.

THIS building, which is now approaching completion, has been erected as an offshoot from the parent body in the centre of the town to supply a new district which has lately sprung up in what may be termed the "West End" of Dewsbury. It is erected entirely of delph stone, the whole of the woodwork being of pitch pine. Sitting accommodation is provided for 460 persons on the ground floor, no galleries being erected in any part of the chapel. A large vestry and organ chamber open into the main room by large moulded arches at the end. The cost of the whole will be about 2,600*l.*, which has been increased to about 3,600*l.* by the addition of large schools at the back of the chapel, which were not contemplated at the time the view was made, and do not, consequently, appear there. The whole of the works have been executed by local contractors under the superintendence of the architects, Messrs. HOLTOM & CONNOR, of Dewsbury.

WILSON MEMORIAL FOUNTAIN, MALVERN.

THIS structure is being erected to perpetuate the memory of the late Dr. JAMES WILSON, the founder of the treatment of disease by hydropathy in this renowned hygienic station, the principles and appliances of which have since been copied by other medical practitioners all over the country.

At the death of Dr. WILSON in 1866 it was resolved to erect a public fountain to his memory, but there have been so many difficulties in getting a suitable site that until very recently the work could not be put in hand.

The materials to be used are Forest of Dean blue stone for the plinth, base and steps; Portland stone (grey) for the basins, pilasters, &c.; and Grinshill (Salop) stone for the general structure, the several columns being of Aberdeen and Peterhead granite.

Major W. C. WARD JACKSON supplies it with water from a never-failing spring of the very purest water, which rises to the surface on his estate, which is immediately opposite the site.

The work is being carried out by Mr. WM. PORTER, builder, of Malvern Wells, according to drawings (illustrated in our present Number) and under the superintendence of Messrs. HADDON BROS., of Malvern and Hereford, architects.

CLIFTON COLLEGE, PLANS.

IN the present volume (page 189) we gave a view of a portion of this College, showing the "Percival Buildings," just completed, together with the architect's design for the entrance-tower and east wing.

The Percival Buildings, which comprise the library and museum, and form the north side of quadrangle, take their name from the much-respected head master, Dr. PERCIVAL, he having, at his own cost, erected the fine library, and inspired the assistant masters and boys to add the museum in his honour.

The entrance-tower and east side of quadrangle are still wanted to complete the main block of the College, and considering the remarkable success of this institution (a success which has never be-

fore been equalled, it having attained its maximum of 500 boys in the short space of twelve years), we feel sure that it will not be long before this block, so essential both for use and appearance, is added.

The first portion of the buildings was begun in 1861, and was confined to the west side of the quadrangle and the adjoining staircase. At the same time as the school house, the residence of the head master was erected, and, with these two buildings, the work of the school commenced.

In 1865 the projection at the south-east of Big School was built, for a small library and additional class-rooms.

About this time the institution sustained a great loss in the death of the Rev. Canon GUTHRIE, who may be said to have been the founder of the College, having been its first promoter and chairman of the council from the commencement to his death.

The Guthrie Memorial Chapel, which stands at the south-east, was erected by his widow shortly after her husband's death to carry out a project he had long entertained of having a permanent chapel for the College; unfortunately Mrs. GUTHRIE died before the work was completed.

The Council added the bell-tower at the north-west angle, and named it the Guthrie Memorial Tower, in remembrance of their first chairman.

In 1870 the library was erected by Dr. PERCIVAL, the Council being at the expense of the class-rooms underneath it, as also of those under the museum just completed.

In the *Architect* of September 12, 1874, will be found an interior view of a portion of the library, showing the centre compartment or oriel. It will be seen from that view, and the plan now given, that the library, which is 60 ft. by 23 ft., is divided into five bays by arched principals resting upon octagonal pillars, between which and the walls are the bookcases, standing at right angles therefrom, thus forming quiet reading compartments, each provided with a table and chairs; the bookcases, tables, &c., have all been designed by the architect.

The museum has four bays, and will be fitted up in a similar manner. The two rooms can, when desired, be thrown into one long gallery, 110 feet in length, ending with the Council Chamber and private library, 35 ft. by 23 ft. These, together with the Big School at the west, form a splendid suite of rooms on reception night.

The new wing on the east will have two storeys of class-rooms above ground and one under; the latter will, however, be only one-half its height below the surface on the east, as the level of the land on that side—the Botanical Gardens—is considerably lower than the quadrangle, so that the underground rooms of this wing will be almost as good as the others, especially as they are protected from any contact from the surrounding soil by a wide corridor on one side, and dry open areas on the other.

In addition to the main block of buildings there are several minor structures shown on the Block Plan, such as racquet-courts, gymnasium, ball-courts, swimming-baths, &c.

The public roads, which take their name from the college, are on the north and west; the south or principal front faces the College Close, a fine space of turf upwards of ten acres in extent, where ample space is provided for cricket, football, athletic sports, &c. When we mention that at the present time two members of the Oxford University Eleven are "Old Cliftonians," we need scarcely say that great attention is paid to the former game, a professional being engaged as "coach."

Attached to the private portion of the school house is accommodation for 70 boarders, and there are several other boarding-houses surrounding the college, occupied by assistant masters, holding on an average 40 boys each.

At the south-east corner of the close are two distinct sanatoria, one for infectious and the other for simple cases; also a porter's lodge for the east entrance from the Pembroke Road.

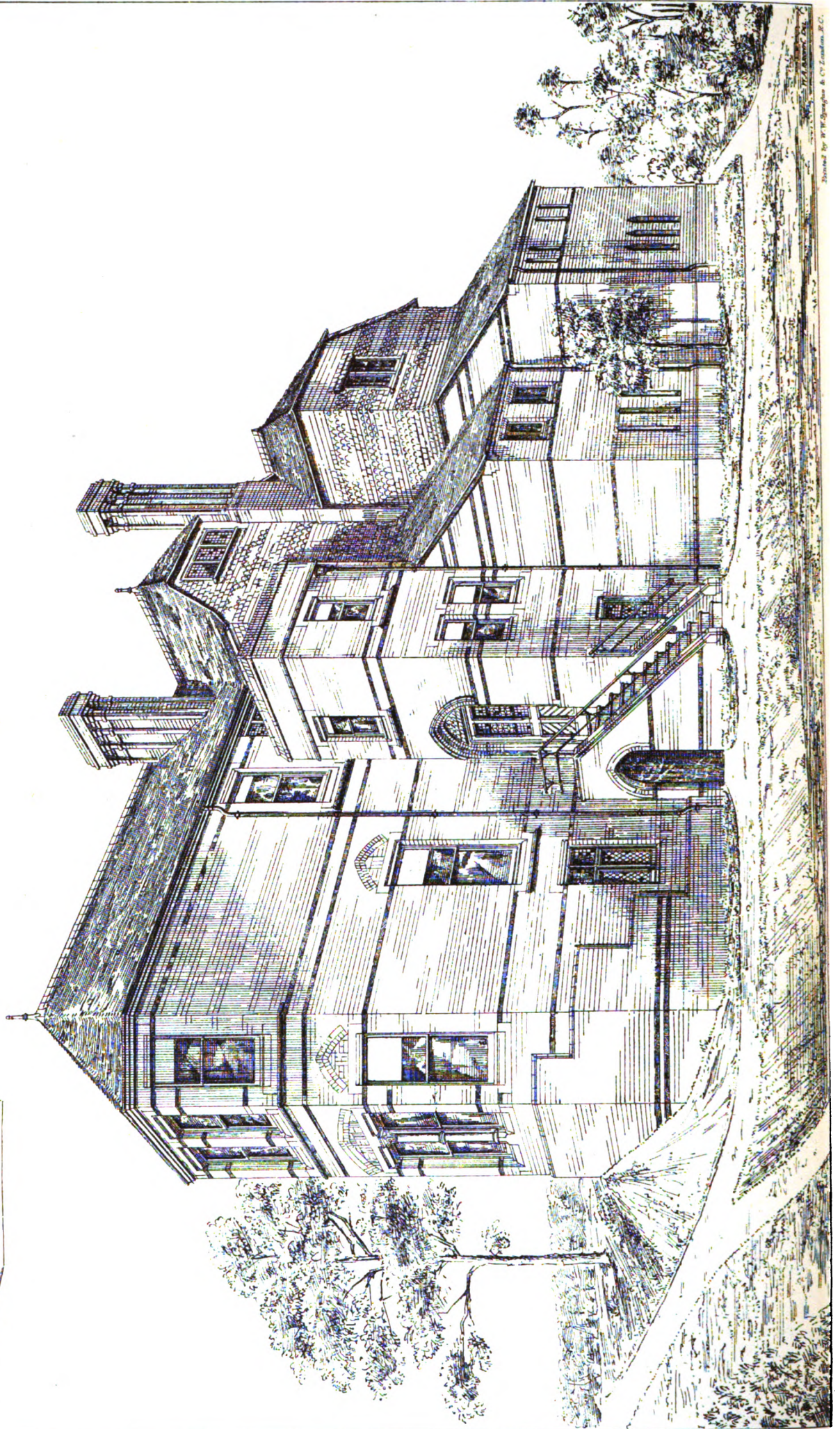
What is now wanted to complete the college, and what every true friend of the college most ardently desires to see accomplished, is the entrance-tower and east wing; when these are built the unsightly temporary structures on the north can be removed, and the north front opened out, as it undoubtedly should be, to public view, provided with entrance-gates, porter's lodge, &c., as shown by the Block Plan.

The whole of the permanent buildings of the college, school house, &c., have been designed and carried out under the superintendence of Mr. C. F. HANBOM, F.R.I.B.A., of Clifton, whose plans were selected by the Council from 24 designs submitted in competition in 1860—Mr. JOHN NORTON, of London, having sent in two designs. Mr. B. FERREY was called in to adjudicate.

HOUSES AND SHOPS, FOREST HILL.

THESE houses and shops, now in course of erection in Perry Vale, adjoining the Railway Station, are from the designs of Mr. J. W. BROOKER, architect, Railway Approach, London Bridge, S.E. The fronts of the houses are faced with best picked stock bricks, red bricks being used in arches, with moulded red bricks in cornices, &c. The dressings are in Portland and Bath stone, red Dumfries stone being introduced for the pilasters between shop fronts, also shafts to second floor windows. The contract is 4,495*l.*, Mr. A. THOMAS, of New Cross, being the contractor.

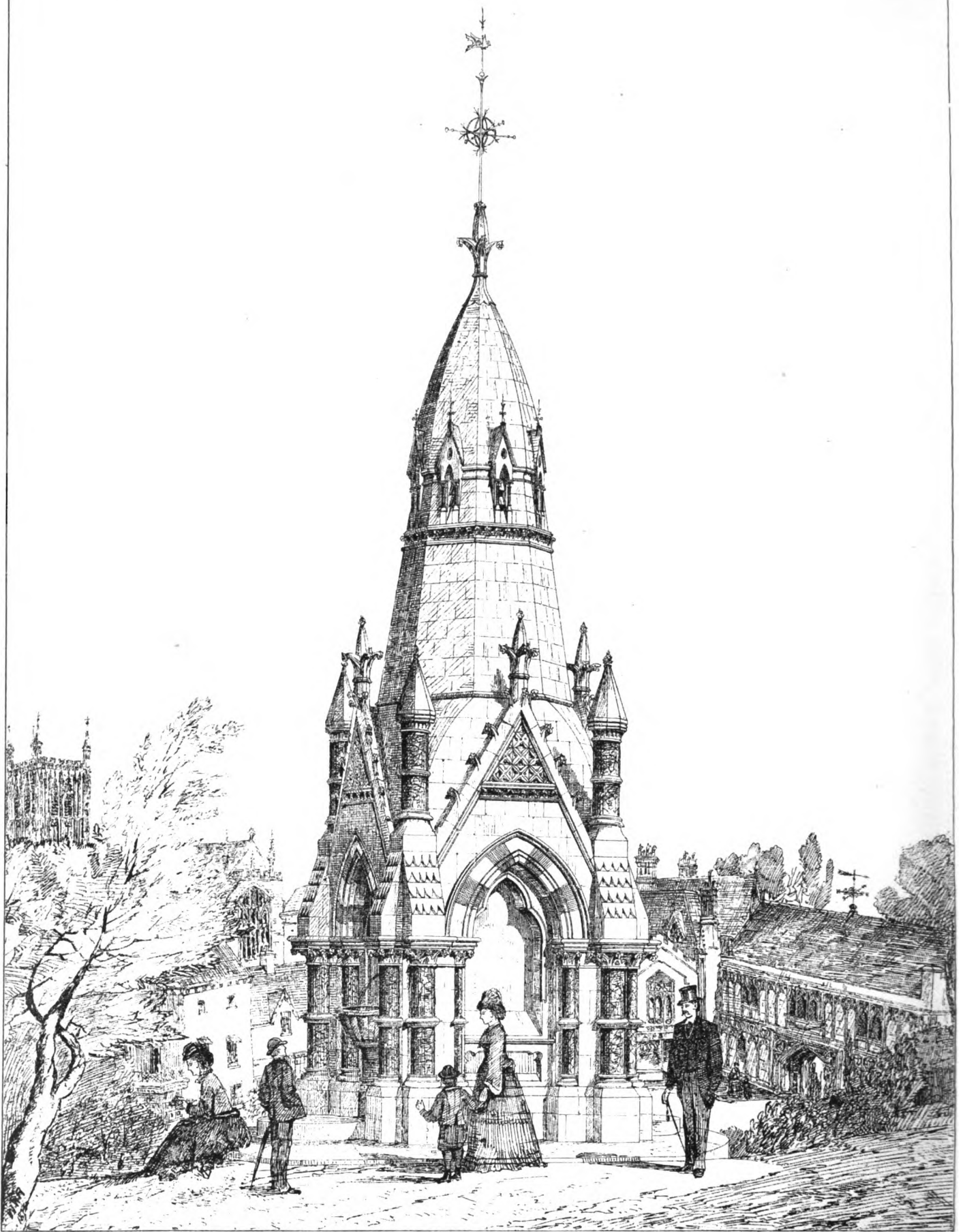




Residence at Shortlands, Kent.

CHARLES J. SHOPPEE, ARCHT.

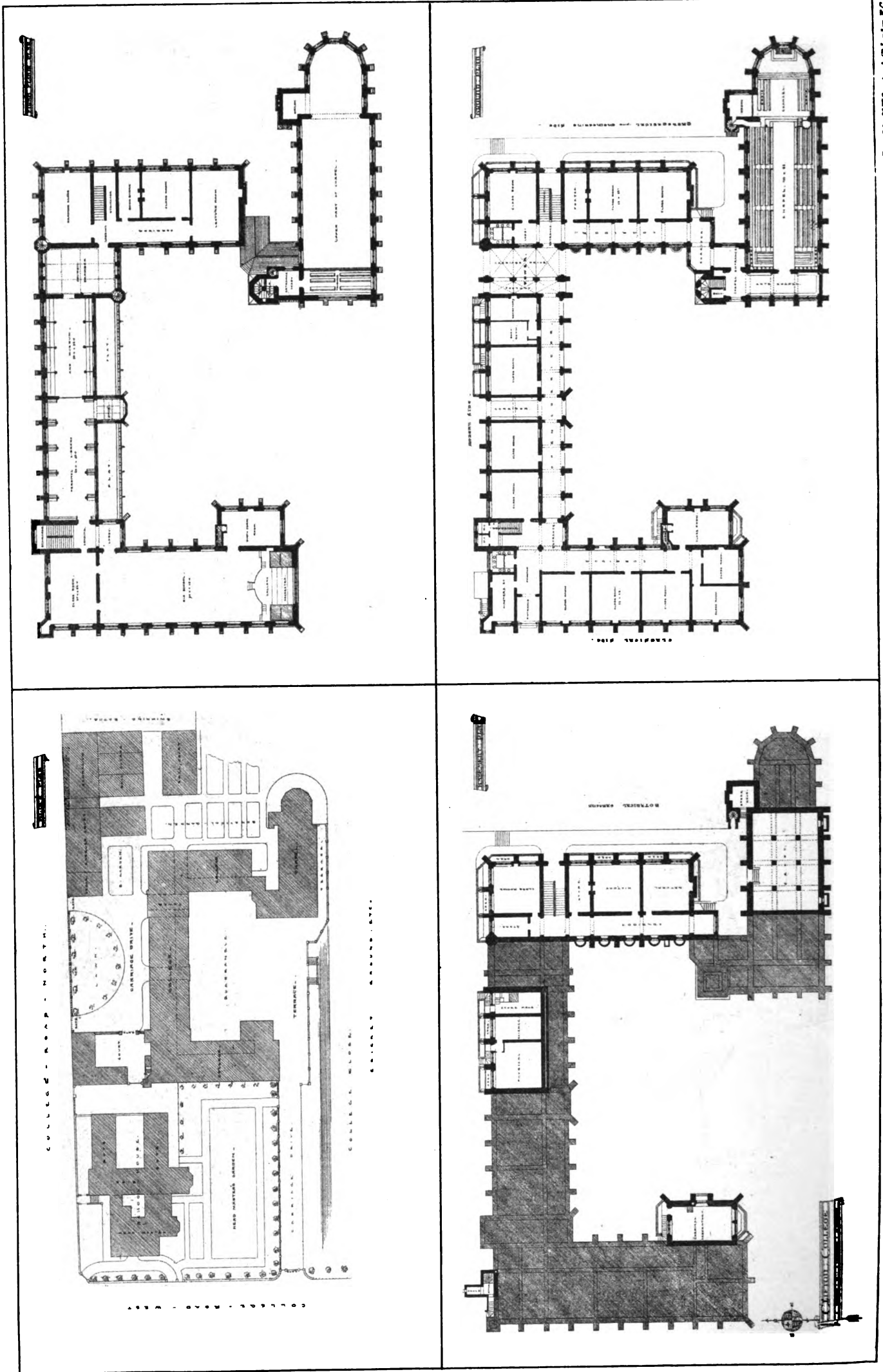




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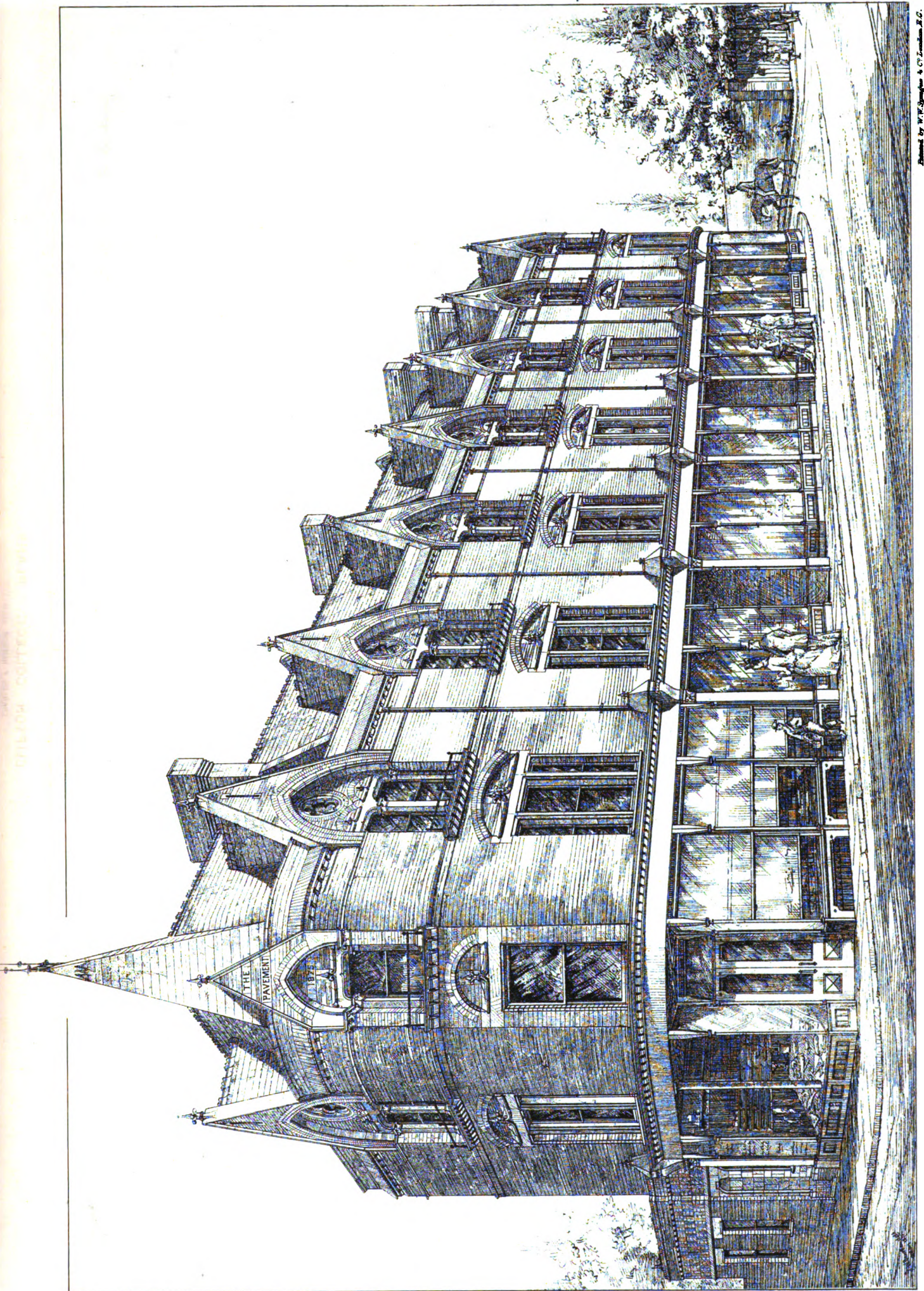
THE WILSON MEMORIAL FOUNTAIN, GREAT MALVERN.
MESS^{RS} HADDON BROS. ARCHITECTS.





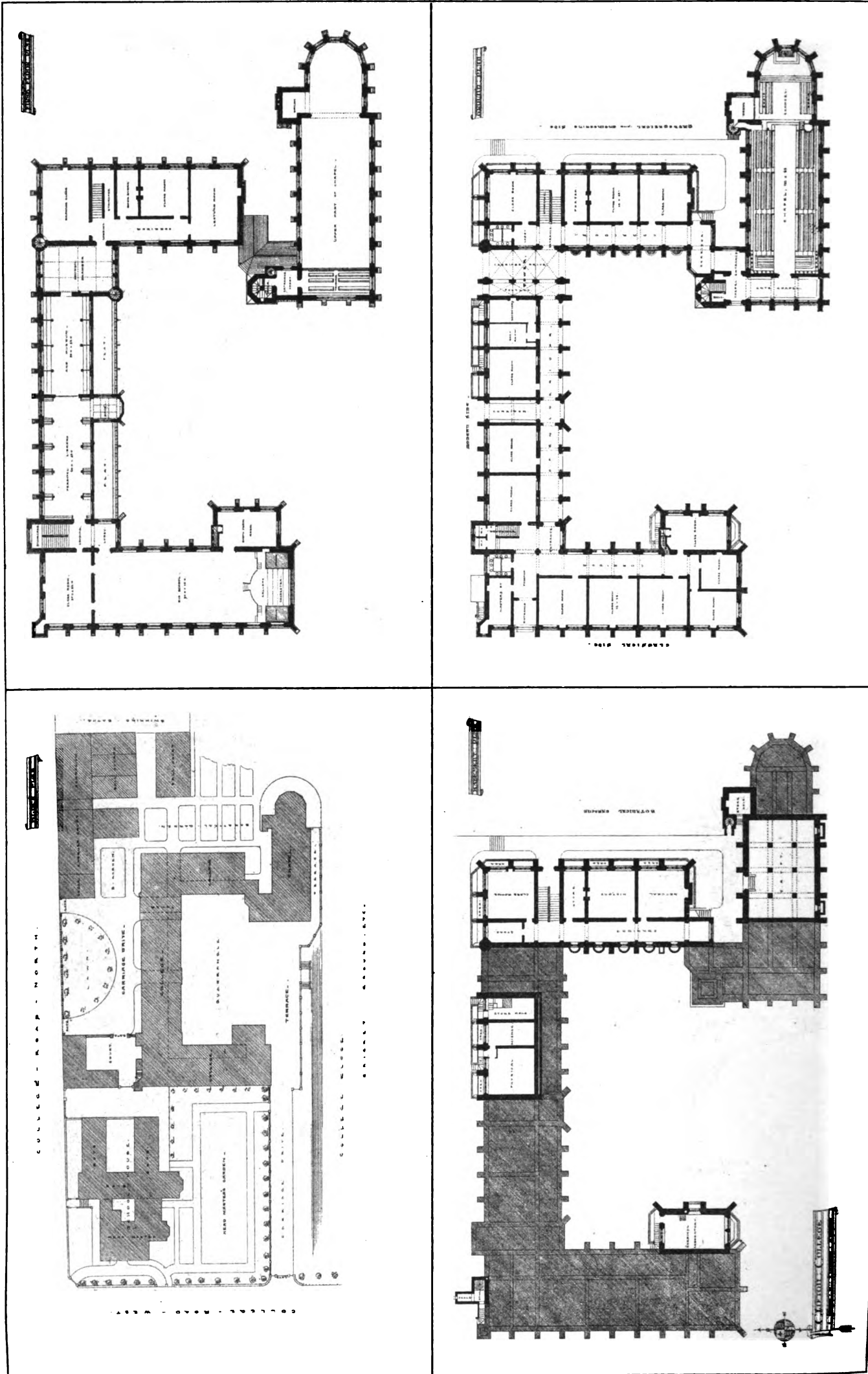
CLIFTON COLLEGE: PLANS.
CHARLES F. HANSON ARCHITECT

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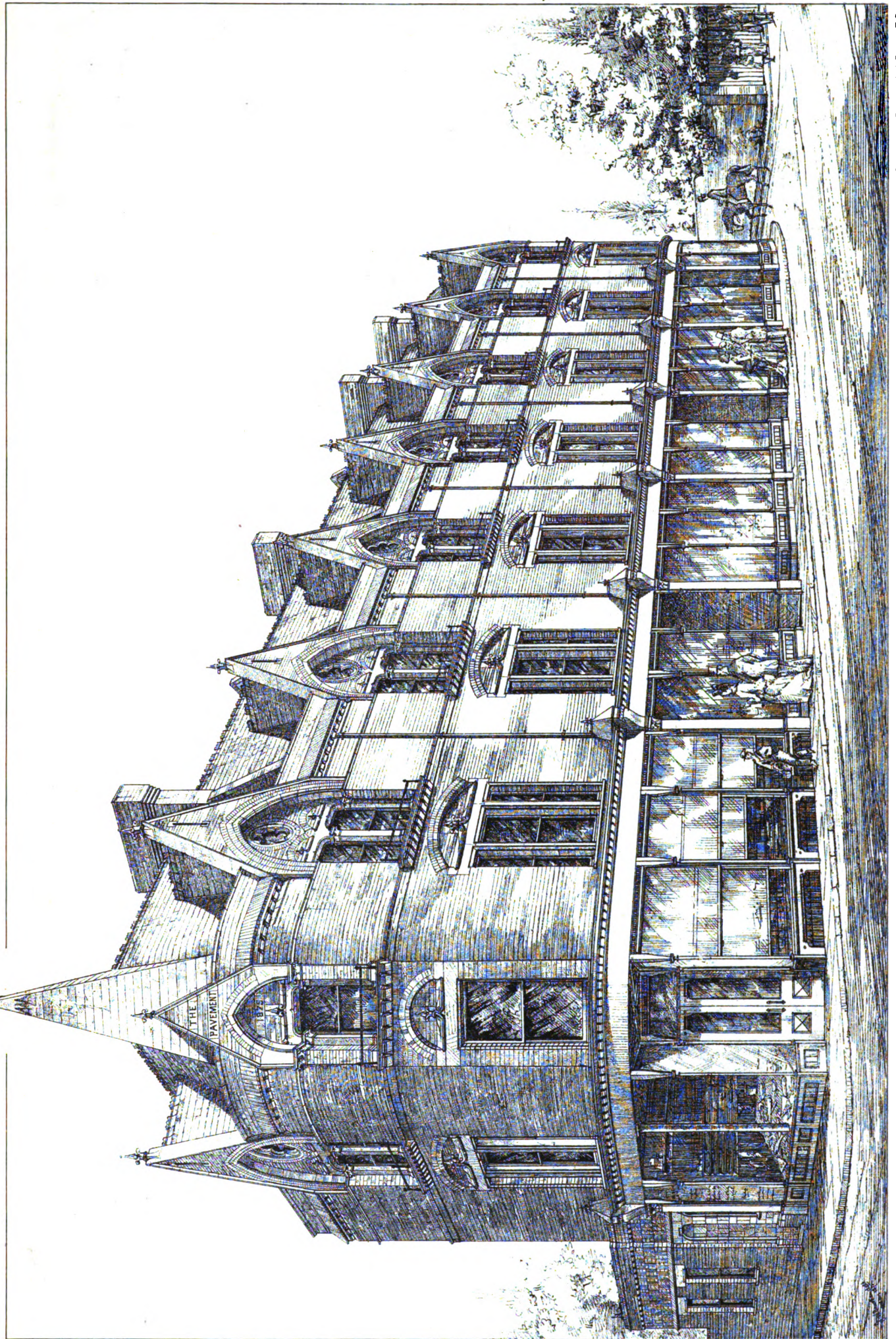
HOUSES AND SHOPS, FOREST HILL.
J.W. BROOKER, ARCHT.

Designed by J.W. Brooker & Co. London, E.C.



Designed by W. H. Stanger & C. J. Mansom R.C.

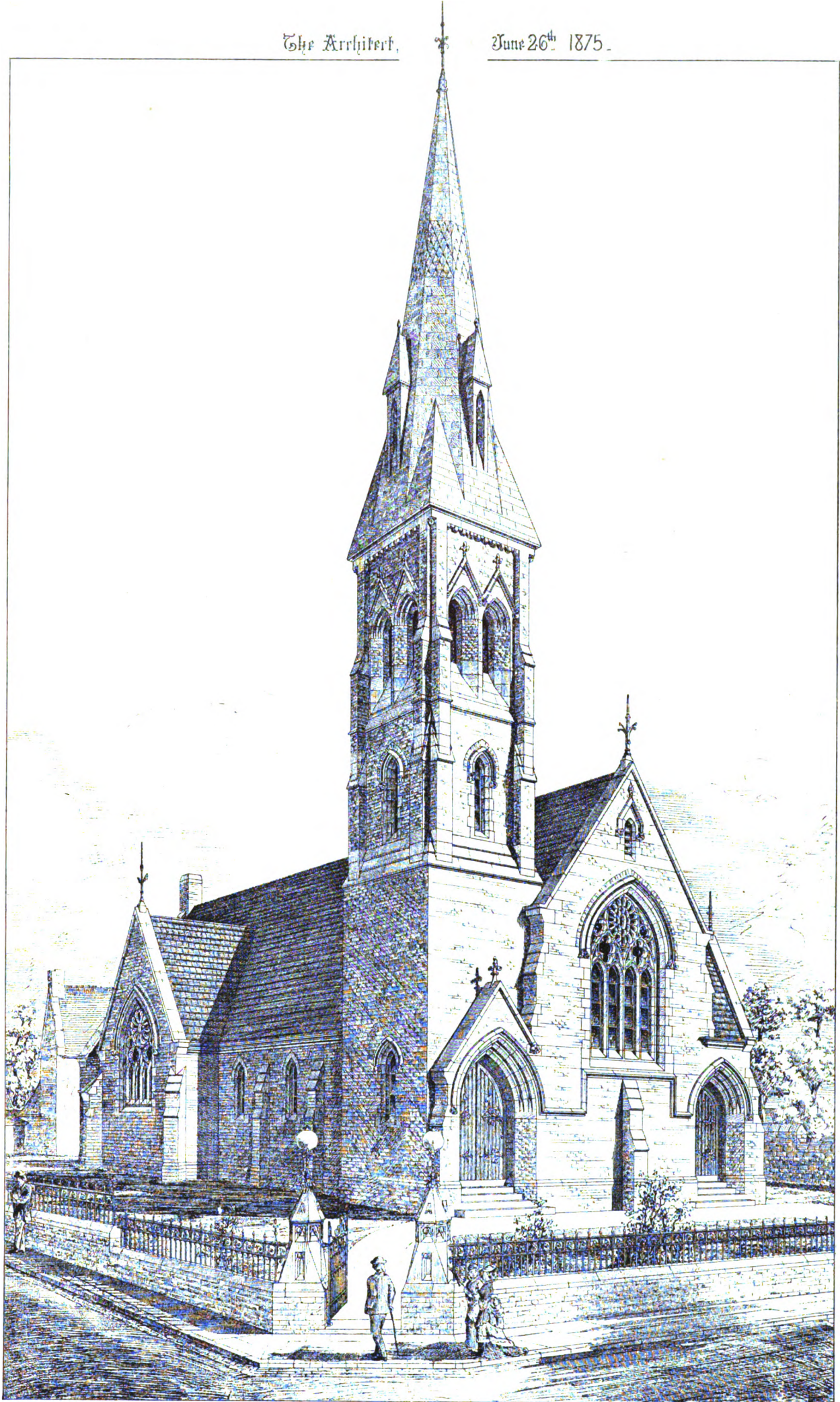
CLIFTON COLLEGE: PLANS.
CHARLES F. MANSOM ARCHT



HOUSES AND SHOPS, FOREST HILL.
J W BROOKER, ARCHITECT.

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NEW CONNEXION CHAPEL, DEWSBURY.

MESS^{RS} HOLTOM AND COMMON, ARCHITECTS.

Printed by W. W. Spanglow & Co. London. E.C.

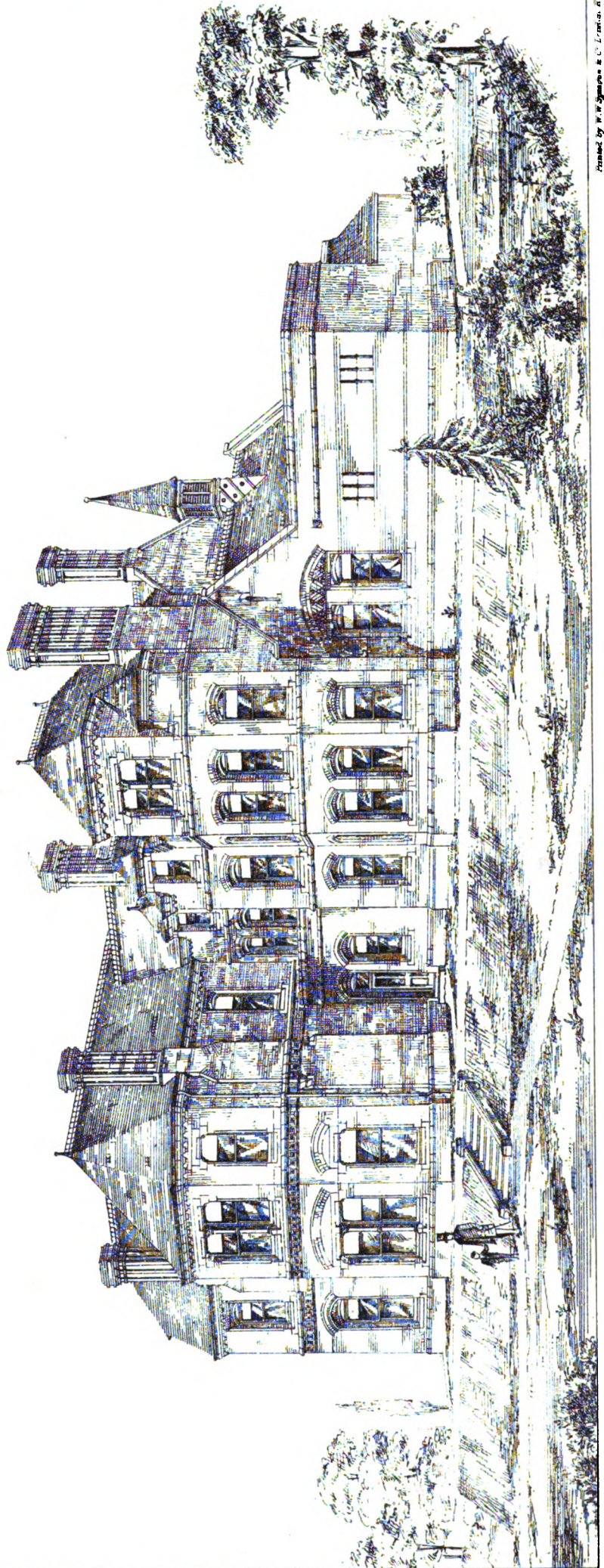


Residence near Farnham - Surrey
CHARLES J. SHOPPEE, ARCHITECT.



GROUND PLAN

Scale of 20 feet



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THE ASSOCIATION OF MUNICIPAL AND SANITARY ENGINEERS AND SURVEYORS.*

WE have from time to time noticed the proceedings of the meetings of this young but very important association, which is now so far matured as to be able to publish a volume of reports of the meetings and records of the transactions after the manner of the older societies. The Association of Municipal and Sanitary Engineers owes its origin to the foresight and energy of Mr. Lewis Angell, who is the engineer and surveyor for the metropolitan district of West Ham. A few years since the Government appointed a Royal Commission to inquire into the working of the confused and multifarious sanitary Acts, with a view to their consolidation. As is usual in such cases, no evidence was taken from the engineers and surveyors employed under the various local boards, although upon them more than on the medical officers the effective carrying out of sanitary measures must depend. One result of the Commission was the appointment of a central authority, which was to have the control of the medical officers of health, in order that they might be able to perform their duties without fear of any personal loss from the local authorities. But the town surveyors (unless they happened to hold their appointments under the Towns Improvement Clauses Act) were left wholly dependent on those authorities. Mr. Angell, believing that such an anomaly should not be allowed to exist, wrote to his brother surveyors, asking them to take advantage of the time, in order to secure the independent discharge of their duties. Immediately a body of evidence was derived from the surveyors as to their position which was so astounding as to demonstrate that there was no hope of effective sanitary work in the country so long as the surveyors were at the mercy of the local authorities.

"The effect of leaving local surveyors entirely dependent upon local feeling, without power of appeal," wrote one surveyor, "is to paralyse their energies, and convert them into mere time-servers; we cannot afford to quarrel with our bread and butter for the sake of consistency and the public good. Our best policy is inaction, for no officer can be expected to render active and cordial assistance in carrying out compulsory sanitary legislation so long as he is conscious that his action is opposed to local feeling and the safety of his own position." "I am perfectly convinced," wrote another, "that until Government secures us against local tyranny and oppression, we shall never be in a position to carry out the sanitary measures which may or have become law. No matter what you may think necessary to be done for the sanitary improvement of a place, my experience proves that there is such local influence brought to bear upon you, that in nine cases out of ten the law is rendered null and void, because, however necessary it may be, you dare not carry out its provisions under penalty of dismissal." Other surveyors wrote: "The duties required to be performed by the surveyor in almost every instance affect the pecuniary interests of the ratepayers, or owners of property, and the effect is that a conscientious and impartial surveyor is nearly always unpopular." "My experience during twenty years has been that it is absolutely necessary to make the surveyor independent of the Board in carrying out his duties. No surveyor, under the present law, will dare to serve a notice on the chairman or other members of the Board unless he is prepared to undergo the most petty annoyances and exactions." "Members of a Board of Health will drive away any surveyor who does his duty fearlessly, but not satisfactorily to some one or two members who can often lead a whole Board."

The communications of the remaining surveyors were in a similar strain. But, manifest as might be the impolicy of subjecting the officers to the local boards, the Government made no attempt to remedy this. A memorial was presented to the Local Government Board signed by one hundred and thirty-three officers praying to obtain the same status for themselves as was possessed by the Poor Law officers, but Mr. Stansfeld told the deputation who presented it that he could not imperil his Bill by introducing clauses which might provoke the local authorities.

Although they were not successful in obtaining recognition from Government, yet this attempt at co-operation led naturally to the institution of the Association. The inaugural meeting was held in May, 1873, when Mr. Angell was unanimously elected president. The subsequent annual meeting was held last year in Birmingham, and there have been district meetings at Leamington, Liverpool, Chester, Leicester, and other places. We gave abstracts of some of the Papers which were read at those meetings, but corrected reports of them are found in the volume now under notice.

The question of the hour among local surveyors at present is the best way of disposing of sewage, and the majority of the Papers read at the different meetings refer to this subject, so that the volume contains a large amount of information about the relative advantages of the various systems. When the extravagant ideas of the sewage doctors are remembered, and how often they have demonstrated, by elaborate calculations, that vast profits may be derived from one or other of the ways of utilising sewage, the results of the experience of the surveyors must be rather disappointing to those ratepayers who were anticipating diminished taxation through means of sewage. The President, for instance, says:—"As sanitary engineers we do not depreciate the efforts of chemical science; we intervene no obstacle, we invite co-operation; but we cannot be expected to advise our clients to expend money in a class of experiments which have hitherto failed, practically in every form." And in another place he adds that under any circumstances towns must not expect, either by chemical means or by irrigation, to make any profit out of sewage. The Surveyor of Hertford says that "chemists are wrong when they say that sewage is a profitable article to deal with; therefore towns must be prepared to pay in order to get rid of what is likely to be a nuisance to them." The Surveyor of Ipswich says he does not believe there is a single sewage-farm that can

show a satisfactory balance-sheet. The Surveyor of Leicester says that in the sewage works of the town, with working expenses of from 1,800*l.* to 2,000*l.*; there is annually a loss of between 1,400*l.* and 1,500*l.* This is testimony which is deserving of attention, and if guided by the advice of their responsible engineers, there are few towns which are likely to be led into expensive experiments with sewage in order to secure what cannot be attained—viz., a profit on the outlay.

As we have said, this first volume of the "Proceedings of the Association" is mainly occupied with sewage. There are, however, a few Papers on the other subjects with which town surveyors have to deal, and from one by Mr. J. O. Thorburn, of Birkenhead, we extract the following:—

"Experience shows that the safest way to ventilate house drains is by carrying up ventilating pipes at the heads of the drain and its branches. The point of exit should neither be near a window nor the top of a chimney, as there are at certain periods currents of air at these points into the house, so that if the point of discharge is permitted to terminate near these openings, sewer gas may be drawn into our habitations.

On the whole, then, the evidence would seem to show that the best plan to ventilate house drains and water-closet soil pipes is to have special pipes raised high above the roofs of the houses, provided with Archimedian screws at the top, and a charcoal-filter immediately underneath.

The system adopted for trapping and ventilating sewers, drains, and soil pipes in Birkenhead, is set forth in a circular, from which it will be observed, that "The Health Committee feel it their duty to point out and call the attention of the public to the general absence of the necessary safeguards for the prevention of the escape of sewer gas into their dwellings through drains and water-closets, in order that owners or occupiers may take the necessary precautions to secure protection from the evil effects of sewer gas on themselves and their families, and require that the following general principles should be observed in constructing private drains, soil pipes, and water-closets.

1st. Where water-closets are placed within a dwelling, the communication of the soil pipe with the drain should have double traps, immediately outside the external wall of the building, with an intermediate ventilator between the traps, and the soil pipe carried up through the roof, at a point removed from the chimneys, windows, or sky-lights; the connecting pipe between the water-closets, baths, and sinks being securely trapped.

2nd. All pipes conveying waste water from the interior of a dwelling into the drains should have their continuity broken, where practicable, and terminate over a trapped gully placed in the ground, in the open air. Care should also be taken that such pipes are syphoned so as to prevent an inward draught of air.

3rd. Syphon, or 'hopper closets,' should invariably be used in preference to 'pan closets.' Where pan closets are now fixed, the apparatus should be provided with efficient ventilation by means of an air pipe extending from the top flange, at the bottom of the basin, through the external wall.

4th. The water supply to all closets should be through a proper, separate and distinct service box, which is recommended to be provided with double valves; and in no case should such service box be connected with or fixed to the cistern supplying the house with water. The water used for drinking and culinary purposes should be drawn from the service in direct communication with the water main.

5th. No water-closet to be perfectly safe should be constructed inside a house without an intermediate vestibule with a cross current of air, so as to cut off the air in the house from that in the closet."

CONCRETE CONSTRUCTION.

AT the last meeting of the Civil and Mechanical Engineers' Society, Mr. Charles Drake read a Paper on "Concrete Building." In a lengthened discussion which followed, the value and economy of concrete for building purposes was recognised. Objections were, however, taken as to its adaptability for architectural treatment.

Mr. POWNELL said that where only one or two houses were to be built, the cost of obtaining the necessary apparatus for any diversity of feature would be too great to be adopted. In all cases where moulds were used there was necessarily a great similarity of feature. That appeared to him to be a great drawback to the introduction of any novel system of architecture in connection with concrete building.

Mr. BUTLER considered that by looking at some of the old Elizabethan cottages in some parts of the country it would be seen that they were built with wood, and had spaces between filled with plaster. Those cottages were ornamented with all sorts of devices—diamonds, fleur-de-lis, flowers, and cyphers—some of which were very effective. He thought that a very good idea might be obtained from a study of those cottages of how concrete might be used. However, as engineers, they valued concrete as a building material on account of its strength, durability, and economy; and as to architectural treatment, that was but a secondary consideration. If concrete was to be used for architectural work, some novel mode of treatment must be adopted.

Mr. PAIN said that he had had tenders for building sent in by Mr. Drake and other persons, and those sent in for the erection of the works by the use of bricks were cheaper than that which he had received from Mr. Drake.

Mr. THOMPSON thought that when cracks occurred in concrete work, it was much more difficult to repair than were cracks in brickwork.

Mr. WALTON said that the only advantage which architects could expect to receive from the use of concrete was in the matter of cost. The Romans, who knew better than anyone else how to use cement, never attempted any ornamentation in concrete work.

Mr. DRAKE, in his reply, expressed great satisfaction at the reasonable and scientific discussion which his Paper had received. He had been in the habit of hearing the question dealt with by architects in a very unpractical manner. They, too, frequently formed theoretical ideas of their own as to the use of concrete, which had no foundation in truth.

* Proceedings of the Association of Municipal and Sanitary Engineers and Surveyors. Vol. I. 1873-4. Edited by Lewis Angell, M.I.C.E., F.R.I.B.A. London: E. & F. N. Spon.

THE WORCESTER GUILDHALL.

ON the 15th inst. a special meeting of the Worcester Town Council was held, to consider the question of repairing, restoring, or rebuilding the Guildhall, and to make orders thereon.

The MAYOR read the following letters :—

3 Albany Terrace, Regent's Park, London, N.W.,
June 12, 1875.

DEAR SIR,—Understanding that the question of rebuilding or reconstructing the Guildhall is to be brought before the Council on Tuesday, I write to say that I still rely on their good faith to employ me for the work, since I was awarded the principal premium in the competition. And I also wish to mention, having the highest opinion of the professional skill and experience of your city surveyor, Mr. Rowe, to whom, if the competition is to be ignored, the execution of the work would ordinarily be entrusted, and who has consented to act with me, I shall have great pleasure in carrying out the work conjointly with him.

I cannot but express my regret that any professional gentleman, when a competition was invited, instead of fairly entering the lists and so submitting his design, should subsequently bring it forward; and I think in honour it should be rejected. And as regards the only plan for the reconstruction submitted in competition, as its author has himself abandoned it by submitting new designs, I think it should be considered as withdrawn. Will you please lay this letter before the Council?—I remain, dear sir,

Yours very faithfully,

CHRIST. G. WRAY, F.R.I.B.A.
Architect.

J. Longmore, Esq., Mayor.

5 Foregate Street, Worcester, June 15, 1875.

To His Worship the Mayor of Worcester.

WORTHIPPFUL SIR,—I prepared design for reconstructing the Worcester Guildhall, in 1872, under motto "Vincit Veritas," for which your Council awarded me the first premium of 60l. The work proposed in this design was retaining the present front, hall, and wings, but rebuilding the back portion of premises, increasing width and height of assembly-room, and re-roofing. This work I estimated to cost 9,000l.; owing to the advanced price of building I now estimate to cost 10,500l.

I have recently prepared another set of plans, marked "A.A." which I laid before the Survey Committee on May 11 last, in which I propose rebuilding the wings and widening Copenhagen Street. In other respects the general arrangement is much the same as design "Vincit Veritas." I estimate the cost of these plans, if carried out, at 14,500l.

Further details and particulars will be found in my two reports, and I shall feel much pleasure in waiting upon the Council or furnishing any additional information if required.—I have the honour to remain, Worshipful Sir,

Your obedient servant,

ERNEST A. DAY.

The following measurements connected with the Worcester Music Hall may be of service for comparison :—

Worcester Music Hall.

From back of orchestra to back of gallery, 88 feet long; by 40 feet wide. Out of this space the orchestra occupies 20 feet by 40 feet, and the gallery 23 feet by 40 feet, leaving the ground-floor space 55 feet by 40 feet.

3 Verulam Buildings, Gray's Inn, W.C., June 14, 1875.

The Mayor and Council, City of Worcester.

GENTLEMEN,—I am informed that the project of remodelling or rebuilding your Guildhall is again about to receive your serious attention.

As the architect for the new bank now building for the Stourbridge and Kidderminster Banking Company, together with the adjoining premises, in Broad Street, and thus deeply interested in and connected with your city, I beg that in the event of any course of action being resolved upon, I may be permitted to submit drawings and plans in accordance with your instructions and conditions, for the rebuilding or reconstruction of your Guildhall, in which case it will be my most earnest endeavour to employ my professional skill and experience to the best advantage of the Corporation, and to the embellishment and convenience of the City of Worcester.—I am, gentlemen,

Your obedient servant,

HENRY L. FLORENCE, F.G.S., M.R.I.B.A.

The MAYOR said that all they could do was to determine whether they would rebuild the Guildhall, restore, and perhaps enlarge it, or leave it alone altogether for the present; they could not go into details then. They ought first to know whether they could borrow money for restoring only, which was somewhat questionable, though there was no doubt that they could borrow for rebuilding. Then, again, they ought to know the approximate cost of rebuilding or restoring. Mr. Day's estimate for restoring was 10,500l., but according to the later plan, which included taking down two wings and widening Copenhagen Street, the cost would be 14,500l.

Mr. AIREY then brought forward a resolution of which he had given notice—

That in any plan that may be adopted for rebuilding, reconstructing, or otherwise altering the Guildhall, the Council are of opinion that the present front should be retained.

He conceived that in voting for the retention of the old front no member of the Council would be pledging himself to any definite scheme that might afterwards be carried out. He thought that the Worcester Guildhall was one of those old buildings the historic interest attaching to which ought to preserve them from destruction, except under circumstances of absolute necessity. With the excellent and sensible letter of Sir Gilbert Scott upon this question before them, he thought they would be fortified in their opinion if they said it was not desirable to destroy the ancient front of their Guildhall. Sir G. Scott, who had so great a veneration for antiquity, told them that there were only two other buildings of a similar character in the kingdom, and that it would be very unwise to destroy the front of their old Guildhall. He hoped the Council would act upon the advice of so distinguished an authority, and accede to his motion.

Mr. HARRISON seconded the resolution.

Mr. PARTINGTON proposed as an amendment to Mr. Airey's resolution :—

That the Guildhall be allowed to remain in its present state with necessary repairs.

Mr. MINCHALL said that a sum of between 400l. and 500l. was spent only last year in re-roofing the front portion of the building, over and above a considerable amount which was realised for the old lead, which was of immense weight. He thought that so large an expenditure ought not to have been incurred if the project of reconstruction was seriously entertained.

Mr. FISHER could not see the necessity for rebuilding in the face of Mr. Rowe's plans, which showed that the hall could be restored, nor did he see the need for additional space in the council-chamber, which formerly accommodated 24 more members than at present. There was no doubt that a rebuilding would entail an additional burden upon the rates for years to come of 2½d. or 3d., if not 4d. in the pound, whereas the cost of repairs would be defrayed by a rate of 2½d. in the pound for two years only.

Mr. WILLIAMSON said they could not leave the hall in its present state without exciting the ridicule of their fellow-citizens. Let any one who doubted the necessity of alteration look at the next room, which had to be propped up in various places in order to render it safe. The matter ought to be referred to the Survey Committee, with the addition of other gentlemen, who, after obtaining professional assistance, might report upon the cost of reconstructing or rebuilding.

Ald. JOSIAH STALLARD thought the Council would be stultifying themselves if they accepted Mr. Partington's amendment after expending 200 guineas in premiums for new plans. He thought the wisest course would be to empower the Survey Committee to call in the assistance of some independent and eminent architect to advise them what under all the circumstances would be the most prudent thing to do. They took a similar course by consulting Mr. Hawkesley with regard to the waterworks, and no one grudged the few pounds which had been spent in this manner.

On being put the amendment was lost.

Ald. E. WEBB then moved as another amendment—

That for the purpose of more fully considering the question of rebuilding or reconstructing the Guildhall, the chairmen of the various committees be added to the Survey Committee, who have power to call in to their aid such of their fellow-citizens as they may desire to confer with, and also such professional assistance as they may think necessary.

After a lengthened discussion this latter was carried by a large majority.

THE MANCHESTER AND SALFORD SANITARY ASSOCIATION.

THE annual meeting of this association was held on Tuesday last, Dr. D. Noble being in the chair.

Dr. J. E. MORGAN, in moving the first resolution, said that in the commencement of the present century something more than five-sixths of the population lived either in country districts or in small towns, and hence there was always a healthy population to draw upon, but circumstances had now changed. Three-fourths of the population at present dwelt in large towns and cities, and there was not the healthy source of supply which the country had possessed in former years. Care should consequently be taken that the populations in the towns should enjoy as perfect health as possible. A most important measure for any Government to undertake would be to pull down and build up the uninhabitable parts of our large cities. He had gone into the question pretty fully, and he had come to the conclusion that about 80,000 of the people of Manchester and Salford were living in uninhabitable houses—that was, in houses in which it was impossible to enjoy good health. If the Corporations of the two towns took care that whenever an opportunity offered those places should be pulled down and rebuilt, then people might look forward to the future with much more satisfaction than they could at present. There was a very dense population in Manchester and Salford; but still even large numbers of people might be lodged in close proximity to each other, provided they were judiciously packed. They were not judiciously packed. They were huddled together in houses that had never been intended to hold them. What was wanted was that those places should be pulled down and higher dwellings erected in their places. On the ground floors there might be shops, warehouses, &c., and on the upper storeys he would place human beings. In towns as people got further from the ground they got into a healthier atmosphere, for when they ascended they were pretty free from the exhalations given out by the earth, and the only impurity they had to encounter was that caused by the smoke. Besides, he did not believe that the germs of disease existed at any great height from the ground. It had been found in the West Indies, and other places where malarious diseases existed, that the people on ground floors suffered from them, while people living on the second and third floors of the same houses escaped them. Every effort should, therefore, be made to get the worst parts of our towns pulled down and new buildings erected in their stead.

Mr. F. GAWGE, in seconding the resolution, said he had often heard the complaint made that sanitary authorities could not get sufficiently quick information of the breaking out of infectious diseases, and that they sometimes, therefore, had made considerable progress before the necessary steps could be taken for stamping them out. That was a point of great importance. He agreed with Dr. Morgan as to the advantages of lofty dwelling-houses in towns, and referred to the large buildings in Vienna, the ground floors of which were used as shops, while the upper classes had their dwellings on the first and second floors, and the working-classes on the floors above.

The Dean and Chapter of Worcester have obtained a number of ancient documents which belonged to the Monastery of the city. Among them is the will of King John. There is also a charter of Bishop Wulstan, and a deed to which Gilbert, Earl of Clare, Johanna his wife (daughter of King Edward I.), and Bishop Gifford are parties, with the seals in good preservation.

PAINTING ENGINEERING WORK.

(Concluded from page 370.)

THE oils employed in engineering painting are linseed oil, nut oil, and poppy oil, which in common with a few other vegetable oils and some resinous matters, possess the property of drying, after being placed upon the surface of a substance, into a resinous compound. Of these oils, linseed is by far the most important, and its characteristics deserve careful study, as it alone has pre-eminently the valuable qualities of great strength, and flexibility. It is by far the strongest oil, and the one that dries best and firmest. It has also great body, resists the inclemencies of the weather well, and is least affected by the atmosphere. Good linseed oil is of a pale transparent amber colour, very limpid, with little smell, and comparatively sweet to the taste; it is specifically lighter than pure oil, and dries quickly and firmly. This oil is more viscous or glutinous than other oils, and can be easily recognised by its peculiar odour and taste. Linseed oil improves greatly in quality by age, and ought to be kept at least six months after it has been expressed before being used. A strong drying quality can be given to the oil by boiling it either with or without the addition of other substances. The substances thus added are very various, the principal being litharge, acetate or sugar of lead, red lead, and oxide of manganese, the last named when the body of the paint is to be zinc white. The most simple method of preparing drying oil is by boiling it for a considerable time without any addition, and drying oil can be prepared for common work by mixing 1½ lb. of red lead with one gallon of linseed oil, boiling them together, and afterwards letting the oil stand for a few days for the lead to sink to the bottom. A considerable drying quality may be given to linseed oil and the colour much improved, without its being boiled, by mixing 1 lb. of white lead to the gallon of oil, and letting it stand a week or two until the lead and feculent parts of the oil have sunk to the bottom of the vessel in which the oil is placed. This is likewise a cheap way of purifying oil, as the lead can always be used for common purposes. Other things being equal, the most essential quality to be required in oils is their drying well, which, although it may be assisted by additions, is yet to be desired in the oil itself, as the effect of some pigments is sometimes such as to counteract the strongest driers and occasion great trouble and delay from the work remaining wet a considerable length of time. Nut oil is more uncertain in its qualities than either linseed or poppy oil, and is frequently a long time drying. When of good quality it is very limpid, of an agreeable taste, sweet smelling, and free from rancidity or sediment. Poppy oil is extracted by pressure from the seeds of the plant, and should be white or very slight yellow in colour, sweet, and without smell. Both nut and poppy oils are far inferior in strength, tenacity, and drying qualities to linseed, but have the reputation of keeping colour better, and are on this account sometimes employed in interior work, for thinning paints used for ornamental purposes, and which require to be very white or carefully executed. Driers for hastening the drying of colours are much used, in addition to the drying oils. Those most approved are sugar of lead and litharge. These when ground, and mixed in small quantities with paints, very much assist them in drying; indeed, some colours will not dry without them. Red lead is also an excellent dryer, and in cases where its colour is not objectionable is much employed. Sugar of lead is, however, the best drier, though somewhat more expensive than the others. In the last or finishing coats of light colours driers are generally avoided, as they have a slight tendency to injure the colour. The spirits of turpentine for thinning the colours should be of good quality, which may be ascertained by weighing equal quantities and comparing the weights, the lightest being the best. The goodness of spirits of turpentine may likewise be ascertained by noticing the degree of inflammability it possesses; the most inflammable is to be preferred. Those who are much in the habit of using turps, as they are familiarly called, will tell by the smell their good or bad qualities, for good turpentine has a pungent smell, the bad a very disagreeable one, and not so powerful.

Painting when properly executed will not present a shining, smooth, and glossy appearance, as if it formed a film or skin, but will show a fine and regular grain, as if the surface were natural, or had received a mere stain without destroying the texture. For woodwork, before the paint is applied, the surface must be free from moisture of any kind and seasoned. Dampness, moisture, or unseasoned substances in woods, stopped in or covered over with paint, will in all probability tend to their destruction. The surface is then freed from anything which may prevent the paint from becoming identified with the material. Thus in painting pine-woods of any kind, the resin contained in the knots which appear on the surface must be neutralised, or a blemish will show over every knot: this is done by killing the knots with two or more coats of red lead ground with water and mixed with size. A preparation known as patent knotting is also very much used; it is composed of shellac, naphtha, and some other drying agent. The heads of nails having been carefully punched in, all nail holes, cracks, or other defects are stopped and filled up with putty or wood. The surface of the wood is then rubbed smooth with sandpaper or pumicestone. The number of coats usually given to new woodwork is four. The first, or priming coat, need have very little, if any, of the final colouring matter in it. After priming, all nail holes or other superficial defects are carefully stopped up before the next coat is applied. The coats are laid on as the previous coats become dry, which is generally in about forty-eight hours. The paint requires renewing after every two or three years, when but two coats are usually required. For fine work such coat is rubbed with pumice or sandpaper and well dusted before the next is added.

In repainting old work, all dirt is carefully removed with the stopping knife and duster, those places that are rough are rubbed with pumicestone, and greasy marks cleared off with turpentine. New patches and decayed parts are then brought forward with a coat of priming, all defects stopped and made good with putty, and the first coat or second colour proceeded with in turpentine. The quality of the next coat will entirely depend upon the manner in which it is to be finished. If it is to be painted twice in oil and flatted, the next coat or third colour should be mixed up chiefly in oil,

and tinted like the finishing colour, to form a ground for the flattening. The greater the shine of the ground, the more dead will the finishing coat or flattening be; likewise the more dead the ground the better will the finishing coat shine; therefore it is a general rule that for finishing in oil the undercoat should be turpentine, and for finishing flat the undercoat, or ground colour, should be oil; but it is to be observed that all turpentine undercoats have a little oil with them, and all oil undercoats, except the priming or first coat on new work, have a little turpentine with them. When iron work has to be painted, the engineer has a very different task to perform. Cast and wrought iron behave very differently under atmospheric influences, and therefore require somewhat different treatment. The decay of iron becomes very marked in certain situations, and weakens the metal in direct proportion to the depth to which it has penetrated, and although where the metal is in quantity this is not very appreciable, it really becomes so when the metal is under ¼ inch in thickness. The natural surface of cast iron is very much harder than the interior, occasioned no doubt by its becoming chilled, or by its containing a large quantity of silica, and affords an excellent protection, but should this surface be at all broken, rust immediately attacks the metal, and soon destroys it. It is very desirable that the casting be protected as soon after it leaves the mould as possible, and a priming coat of oil or paint should be applied for this purpose, the other coats thought requisite can be given at leisure.

The following is the process to which all cast-iron water pipes should be submitted. It was introduced by Dr. Smith, and is equally applicable to any other kind of casting that can be manipulated:—Each casting is thoroughly dressed, and made clean and free from the earth or sand which clings to the iron in the moulds, hard brushes being used in finishing the process to remove the loose dust. Every casting must be likewise free from rust when the paint is applied. If the casting cannot be dipped presently after being cleansed, the surface must be oiled with linseed oil to preserve it until it is ready to be dipped; no casting is on any account to be dipped after rust has set in. The coal tar pitch used as a paint in this process is made from coal tar distilled until the naphtha is entirely removed and the material deodorised. In England it is distilled until the pitch is about the consistence of wax. The mixture of 5 or 6 per cent. of linseed oil is recommended by Dr. Smith. Pitch which becomes hard and brittle when cold will not answer for this use. Pitch of the proper quality having been obtained it must be carefully heated in a suitable vessel to a temperature of 300° Fah., and must be maintained at not less than this temperature during the time of dipping. The material will thicken and deteriorate after a number of pieces have been dipped; fresh pitch must, therefore, be frequently added, and occasionally the vessel must be entirely emptied of its old contents and refilled with fresh pitch. The refuse will be hard and brittle like common pitch, and consequently worthless for the purpose. Every casting must attain a temperature of 300° Fah. before being removed from the vessel of hot pitch. It may then be slowly removed, and laid upon skids to drip. In the case of water pipes, all those of 20 inches diameter and upwards will have to remain at least thirty minutes in the hot fluid to attain this temperature. The coating when cold should be tough and tenacious, and not brittle, nor have the slightest tendency to scale off.

In considering the painting of wrought iron it must be noticed that when iron is oxidised by heating in contact with the atmosphere two or three distinct layers of scale form on the surface, and, unlike the skin upon cast iron, can be readily detached, as by bending or by hammering the metal. The outer layer of this scale is more highly oxidised than the inner, and is slightly redder in tinge from the presence of a variable excess of ferric oxide over that contained in the inner layer. The oxide occurring in the outer scale is fusible only at a high temperature, is strongly magnetic, and slightly metallic in lustre; while the inner layers are more porous, dull, and non-metallic in lustre, less brittle, and also less powerfully magnetic. It will be seen that the iron has a tendency to rust from the moment it leaves the hammer or rolls, and that the scale above described must come away. One of the plans to preserve the iron has been to coat it with paint when still hot at the mill; and although this answers for a while, it is a very troublesome method which ironmasters cannot be persuaded to adopt, and the subsequent cutting processes to which it is submitted leave many parts of the iron bare. Besides, a good deal of the scale remains, and until this has fallen off, or has been removed, any painting over it will be of little value. The only effectual way of preparing wrought iron is to effect a thorough and chemical cleansing of the surface of the metal upon which the paint is to be applied, that is, it must be immersed for three or four hours in water containing from 1 to 2 per cent. of sulphuric acid. The metal is afterwards rinsed in cold water, and if necessary scoured with sand, put again into the acid bath or pickle, and then well rinsed. If it is desired to keep iron already cleansed for a short time before painting, it is necessary to preserve it in a liquor redressed alkaline by caustic lime, potash, soda, or their carbonates. Treatment with caustic lime-water is, however, the cheapest and most easy method, and iron which has remained in it for some hours, will not rust by a slight exposure to a damp atmosphere. Although desirable, this method of cleansing the surface is impracticable in the majority of cases, and recourse must be had to scrapers and hard brushes to remove the scale of rust.

Having obtained a clean surface, the question arises what paint should be used upon iron? Bituminous paints, as well as those containing variable quantities of lead, were formerly considered as solely available, but their failure was made painfully apparent when the structures to which they were applied happened to be of magnitude, subjected to great inclemency of weather or to constant vibration. Recourse has, therefore, been had to iron oxide itself, and with very satisfactory results. Iron oxide paints are made of two qualities. The first quality is the best adapted for ironwork, and is made by purifying the oxides and placing them in retorts, when the various colours are mixed with them. They are altogether submitted to seven distinct processes in the course of manufacture. To insure large surfacing qualities, or the power of covering a large area with a small quantity of paint, the ingredients should be reduced to an impalpable powder before they are mixed

with the oil, and, after mixture in first quality paint, they are ground for seven or eight hours. The second quality have their colours chemically combined by mixture, and are not so carefully prepared, although they are excellent for common work. A pound of iron oxide paint, when mixed ready for use in the proportions of two-thirds oxide to one-third linseed oil, with careful work, should cover twenty-one square yards of sheet iron, which is more than is obtained with lead compounds. Oxide of iron paint endures a very great heat without material alteration, and keeps both its colour and preservative qualities well. The author is of opinion that, when used under proper supervision, no better protection can be found for iron structures than oxide of iron paints. There is this difference to be noticed between the painting of iron and wood, that with the former, when a painter comes to spots of rust that cannot be removed, he should endeavour to incorporate them with the paint rather than paint over them. The re-painting of iron involves carefully washing down and removing all dust, dirt, and so on from the entire surface, every particle of rust being scraped and chipped off, the work receiving from two to four coats in oil, properly applied. The author would observe, in conclusion, that the real value of any paint depends upon the quality of the linseed oil, the quality and character of the pigment, and the care bestowed on the grinding and mixing, and as all this is entirely a matter of expense, cheap paints are not to be relied upon. He is convinced that the superiority of most esteemed paints is due to the above causes rather than to any unknown process or material employed in the manufacture, and their comparatively high price corroborates this opinion.

THE PHILADELPHIA EXHIBITION.

THE following official communication has been sent from the Privy Council Office:—"Private letters from Mr. Cunliffe Owen, C.B., and Colonel Sandford, the executive officers of the British Commission, have been received from Philadelphia, with official despatches for the Lord President. They show that the Exhibition is likely to have a brilliant success. The buildings are six months in advance as compared with those of previous Exhibitions. Every block of marble and granite for the Picture Gallery, which will be permanent, is on the ground, and it is rising as rapidly as the temporary structures. The American demand for space is enormous, but the Executive, in recognition of the friendly co-operation of the Government of this country, and to meet the large demands which have been made by British exhibitors, have rearranged the space in the Industrial Hall, so as to give to England a commanding central position corresponding to their own. The forethought displayed in every particular, however minute, has excited the admiration of the experienced officers who represent this country. They state that the arrangements are most sensible, and that there will be no petty charges to the exhibitors. Exhibitors will be allowed to attach to their goods the prices at which they can be produced in England, and as special provision is being made to enable visitors from all parts of America and England to reach Philadelphia at reduced rates, a vast number of Americans will be enabled to realise the effect which their tariff has in enhancing the price of European products."

THE DISPUTE IN THE MANCHESTER BUILDING TRADE.

MR. S. POPE, Q.C., the umpire to whom the questions in dispute between the carpenters and joiners of Manchester and Salford and their employers were referred for final decision by the arbitrators (Dr. Pankhurst and Mr. W. W. Hulce, C.E., on behalf of the workmen and employers respectively), has just made his award.

At the hearing before the arbitrators six workmen and an equal number of employers attended for the purpose of giving evidence, the former as to the justice and reasonableness of their demand—which was for a reduction of hours from 54½ to 50 per week, and an increase in payment of 1d. per hour, viz., from 8d. to 9d., together with an increase in the rate of payment for overtime; and the latter as to the inability of the building trade to bear such a strain at the present time.

In the interest of the men it was contended that the building trade in Manchester and the district being in an exceptionally prosperous condition, the present was a favourable opportunity for granting the demand, of which the masters received notice in October, 1874. The men's reasons for giving the notice were, as to working hours, that the existing hours were excessive as compared with those worked in other towns; that a reduction was necessary on the ground of health, and as a means of enabling the men to educate themselves technically, and to perform with credit the more responsible duties now generally required of them; and it was argued, from the experience of the past, that the reduction of working hours by 4½ per week would not only not lead to a diminution of the amount of work done, but actually increase the efficiency of the work by making the men better fitted, owing to rest and relaxation, to perform it. The increase of wages was demanded on the ground chiefly of the increased cost of tools and of living, house rent, &c., in Manchester; and the charges to the public made by employers for work done, especially since the receipt of the notice six months ago, it was said, fairly enabled them to grant it. With regard to overtime, the men's demand was that the first two hours after the hour mentioned in the rules for leaving off work should count as two and a half, and that time after the first two hours until ten o'clock should be reckoned as time and a half, and from ten o'clock till starting time next morning double time. They also required that systematic overtime should be discountenanced.

Evidence was given on behalf of the employers to the effect that, as regarded working hours, Manchester compared favourably with other towns, the joiners in London working 52 hours per week all the year round, those in Birmingham 54 hours, and those in Liverpool 55 hours; and the demand for increased wages was resisted for the following, amongst other reasons—

namely, that two years only had elapsed since an advance took place from 7½d. to 8d. per hour, and that the time which had elapsed was unreasonably short for any further advance to be made, because, in many cases, contracts were taken long before the advance referred to, and masters had not yet recovered the loss occasioned by it. It was thought that that advance would have settled the question. In Liverpool, which was a competitive town, wages were now 7½d. per hour; but on August 1 they would, under an arbitrator's award, be raised to 7¾d. in summer and 8¼d. in winter for men working in covered buildings. It was held to be a great injustice that Manchester employers should have to pay more wages than those of Liverpool, being competitors in the same market for contracts, whilst in Liverpool rents of the workmen's houses were 15 to 20 per cent. higher than in Manchester. It was denied that overtime was worked systematically by any respectable firm in Manchester. The present rates of payment, however, were considered to be sufficient for any overtime which the men might be called upon to work, casually, in order to complete contracts. It was also denied that joiners' work was more laborious, or that the men generally required to be more skilled than formerly. On every ground it was contended the masters were not able, owing to excessive competition, to concede the demands of the men; and it was especially denied that occasion had been taken, by the men's notice six months ago, to increase the charges to the public.

The arbitrators met in London to argue the case before Mr. Pope, Q.C., as umpire. His award now is that the working hours are reduced to fifty-two hours during ten months of the year. The former working hours during that period were:—From February 20 to October 20, 54½ hours; from October 21 to November 20, and from January 20 to February 19, fifty-two hours. The rate of wages is increased from 8d. to 8¼d. per hour, summer and winter. Overtime not being, in the opinion of the umpire, systematically adopted, the old rule in respect of overtime remains unaltered.

At the aggregate meeting of the carpenters and joiners on Monday evening last the award was adopted by a majority of over three to one.

THE MASONIC TEMPLE, NEW YORK.

THE Times correspondent sends the following description of this building, which was dedicated on the 2nd inst.:—"While not covering one-third of the surface, or attaining more than two-thirds of the altitude, of the Philadelphia Masonic Temple, completed in 1873, the New York Temple is still a building of large size and great attractions. The Philadelphia Temple, which is the grandest Masonic edifice in the world, is 160 feet by 260 feet, and its tower rises to 250 feet elevation. The New York Temple stands at the corner of Twenty-Third Street and Sixth Avenue, the main front being 144 feet on the former street, and the depth about 92 feet on the latter, while the surmounting dome rises to a height of 155 feet above the pavement. It is a building of five storeys, the fifth being a mansard roof which is surmounted by a high quadrangular dome, giving a pyramidal form to the structure. The cornice is 94 feet above the pavement, and above this the mansard pavilions rise 30 feet and the dome 41 feet further. The exterior is designed in French Renaissance, each storey representing a subordinate order, beginning with the Tuscan in the lower storey, above which is the Ionic, then the Corinthian, and lastly the Composite. Light blue granite is used, this being combined in the Tuscan storey with bands of grainy syenite of a darker hue. On the main front the building is divided perpendicularly into a central columned pavilion 60 feet wide, in which the granite work extending through the mansard storey is surmounted by the dome, on each side of which are curtains containing niches for statues. At each angle there are pavilions 26 feet wide, these being repeated on the Sixth Avenue front. The first storey is fitted up for stores, the chief part being occupied by a Safe Deposit and Trust Company. The main entrance is in Twenty-Third Street, and is approached through an elaborate Tuscan portico. Here stand the emblematical pillars, and between them the visitor enters into a large vestibule wainscoted in parti-coloured marbles. Bronze sphinxes guard the stairway which ascends to the main corridor on the second storey, which is decorated in the Ionic order, and is 20 feet by 66 feet, and 28 feet high. On one side of this corridor are the apartments of the grand officers, and on the other side the Grand Lodge Room. Over the central entrance, imbedded in the wall, is a piece of ashlar vouched for as having formed part of the foundation of Solomon's Temple at Jerusalem. The Grand Lodge Room is 86 feet by 92 feet, and 28 feet high, and will seat 1,000 persons. Its architecture is festooned Roman Ionic, a double row of columns running through it, these being a constructive necessity from the weight of the building above. The third and fourth storeys are divided into smaller apartments. Each storey contains a reception parlour, 20 feet by 60 feet, opening into the Lodge Rooms. The Lodge Rooms on the third floor are the Tuscan Room, 27 feet by 62 feet; the Doric Room, 30 feet by 62 feet; the Ionic Room, 26½ feet by 68 feet; and the Livingston Room, 21 feet by 47 feet. These are surmounted on the fourth floor by apartments of similar size—the Composite Room, the Corinthian Room, the Egyptian Room, and the Clinton Room. Of these the Doric Room is upholstered in crimson, the Ionic Room in blue, and the Composite Room in orange. Seven of these apartments are Master Masons' Lodge Rooms, while the Egyptian Room is designed for the meeting of Royal Arch Chapters. The top storey is to be used by the Knights Templar and Ancient and Accepted Rite, and is constructed for an asylum 41 feet by 78 feet and 21 feet high, a council chamber 21 feet by 35 feet, and the other apartments necessary to these high masonic degrees. The asylum is Gothic, and the council-chamber Saracenic. There is also a banquet-hall in Norman style, 27½ feet by 55 feet, and an armoury containing 650 closets for the knights' equipments. The surfaces of all the walls of the building are now white plaster, but will ultimately be painted in colours. Throughout the rooms all the altars, pedestals, and furniture are of carved walnut. The building is heated and ventilated by steam power, and is furnished with every modern convenience."

CHURCH EXTENSION.

THE Incorporated Society for Promoting the Enlargement, Building, and Repairing of Churches and Chapels held its usual monthly meeting on Monday last, at the society's house, 7 Whitehall, the Bishop of Winchester in the chair. There were also present the Earl of Powis, the Dean of York, Archdeacons Harrison and Jennings, Mr. H. Gerard Hoare (treasurer), Mr. A. J. B. Beresford Hope, M.P., &c. Grants of money were made in aid of the following objects, viz.:—Building new churches at Awdridge, in the parish of Michelmarsh, near Romsey, Hants; St. John's, in the parish of St. Luke's, Chelsea, Middlesex; Holborn, St. John's, Middlesex; Hornsey, Middlesex; Leeds, St. Alban-the-Martyr, Hereford; Luton, High Town, Beds; Polegate, near Hailsham, Sussex; and Purston, in the parish of Featherston, York. Re-building the churches of Great Stanton, near Stockton-on-Tees; Laxton, near Howden, York; Llandegvoth, near Caerleon; Penegoes, near Machynlleth, Merioneth; Rhocolyn, near Holyhead; and Sandhutton, near Thirsk, York. Enlarging or otherwise increasing the accommodation in the churches at Bledlow, near Tring, Bucks; Bucknall, near Horncastle, Lincoln; Cranbrook, Kent; Edworth, near Baldock, Beds; Ettisley, near Caxton, Cambridge; Hambledon, near Horndean, Hants; Hinckley, Leicester; Putley, near Ledbury, Hereford; Rodmersham, near Sittingbourne, Kent; Stadhampton, near Wallingford, Berks; Upchurch, near Sittingbourne, Kent; and Witham Friary, near Bath. Under urgent circumstances, the grants formerly made towards restoring the churches at Glen Magna, near Leicester, and Poling, near Arundel, Sussex, were each increased. Grants were also made from the Special School, Church, and Mission-house Fund towards building school or mission churches at Brighton St. Mary, Sussex; Forebridge, Stafford; Greasley, in the parish of Brinsley, Notts; Rhosddu, near Wrexham; Skirbeck, near Boston, Lincoln; and Vincheley, in the parish of St. Ouen's, Jersey. At this meeting the Rev. Ralph Milburn Blakiston was elected secretary in the place of the late Rev. George Ainslie.

THE BROOKLYN SUSPENSION BRIDGE.

BY a recent act of the legislature of the State of New York, this great bridge property, which was commenced as a private enterprise, has become a public work, and the money to complete it is to be supplied from the treasuries of the two cities. The early completion of the structure is therefore assured, and the work is now progressing with all possible rapidity. The last stone of the Brooklyn pier or tower was laid lately—that is, the last that can be placed until the cables are stretched. The tower now stands 271½ feet high from the tide level. In the tower as it stands, there are about thirty-five thousand cubic yards of stone, weighing about seventy thousand tons. The “saddles”—upon which the cables are to rest—are about to be put in place, and then work will cease for the present on the Brooklyn tower. It is expected that the New York tower will be finished before the end of the present season. It is over 200 feet high. The engineers also hope to finish the Brooklyn anchorage this season, and it is thought that before the end of the year the cables will be stretched across the river. This bridge will have a greater span than any work of the kind now existing. The distance between the river piers is 1,600 feet. The total length of the bridge will be about one mile. The width of the roadway will be 85 feet. It is believed that one of the immediate results of the bridge will be to turn the current of increasing population to Brooklyn, and ultimately cause the annexation of that city to New York, in which case the latter will take rank in population next to London.

REVIEWS.

NOTES ON BUILDING CONSTRUCTION: Arranged to meet the requirements of the Syllabus of the Science and Art Department of the Committee of Council on Education, South Kensington. Part I.—First Stage, or Elementary Course. Rivingtons.

AMONG the delusions of the present day is the belief that it is possible to acquire a knowledge of building in the schools of the Science and Art Department. It is true that every year there is an examination not only in architectural drawing but in what is called “Building Construction,” but how can pupils be taught the art of building without the aid of teachers with some practical knowledge of the subject? As far as we are aware there is not one man employed on the teaching staff of the Department who has been in an architect's or builder's office. A youth can become qualified to be a master under the Department to teach “construction” in any part of the country who may be ignorant of the simplest operations of the carpenter or the plumber. Even the lady students, after they have reached one or other of the “grades,” are supposed to be competent, and we believe do teach architecture and building. Need one wonder, then, that there is the most superficial acquaintance with construction among the students. The main effort of the schools is to pass an examination, and the teachers, consequently, know more of the questions in examination papers than of structures. It is found that if the examiner one year happens to be interested in, say bricklaying, and reports that the students are not well up in it, the next year they will be crammed with this subject, but carpentry or slating will be neglected. Yet with such imperfect machinery for imparting knowledge, a pupil from one of the schools of the Department who goes in for “honours” is supposed to possess “a complete knowledge of building materials—their application, strength, and how to judge of their quality; and in the case of iron, of the processes of manufacture, and the points to be attended to in order to insure sound castings and good rivetting,” &c.

The anonymous author of the “Notes on Building Construction” has come to the aid of the Department by supplying the information in which heretofore both masters and students were deficient. Instead of the vague generalities which have passed for knowledge in the schools of the Department, the students have in this book the most exact detail. This part corresponds with the first or elementary stage of the Syllabus of the

Department, and therefore only treats of the general principles of construction. The author evidently has a thorough knowledge of building. He is a good analyst, and the subject is so subdivided that there is exceeding clearness throughout, and the youngest student need have no difficulty in mastering the book. There are more than three hundred illustrations in this part, a greater number than will be found in any similar treatise. Those things which writers of elementary books on building generally pass over are here explained with minuteness. Altogether the book is one which it is a pleasure to recommend. Its primary object may be to support the Science and Art Department, but it will be found to be of wider use; and if the two parts which are to follow are prepared as carefully as this is, the “Notes on Building Construction” will far surpass any work of the kind hitherto published.

WEALE'S RUDIMENTARY SERIES:—THE LAW OF CONTRACTS FOR WORKS AND SERVICES. By David Gibbons.—A GRAMMAR OF COLOURING. By George Field. Revised and enlarged by Ellis A. Davidson.—THE RUDIMENTS OF PRACTICAL BRICKLAYING. By Adam Hammond. Lockwood & Co.

MR. GIBBONS' treatise has been so well known as forming one of the most useful volumes of “Weale's Rudimentary Series,” that we need but say that this third edition is much increased in size (and in price also), and embodies the latest legislation on the subject. From its clear language, orderly arrangement, and the number of cases introduced as examples, the “Law of Contracts” is a type of what a legal book for outsiders should be.

Mr. Field's little “Grammar of Colouring” was one of the most useful of students books, and probably was the best known of the few we have on the subject. In some respects the revised edition by Mr. Davidson is an improvement on the original. There may be an advantage in giving instructions on the methods of mixing and using colours, but we hardly see the use of such a history of ornament as is compressed into a few pages. It is out of place here, and if students care to learn “the characteristic features of the various styles,” they had better do it thoroughly or not at all. On the other hand there is too little said of the science of colour, such as the composition of light, the laws of contrast, &c.

Mr. Hammond seems to be a representative of the average bricklayer of the day, and the part relating to bricklaying is just what one might expect to come from some experienced foreman, and is therefore useful to some extent. But when he refers to other kinds of work, we seem to have but an echo of some of the other elementary treatises in the present series.

HANDBOOK OF HOUSE PROPERTY: a Popular and Practical Guide to the Purchase, Mortgage, Tenancy, and Compulsory Sale of Houses and Land, &c. By E. L. Tarbuck, Architect and Surveyor. Lockwood & Co.

IN this book a vast and intricate subject is dealt with in a limited space. The first part treats of the “Laws relating to Property,” and in about fifty pages the author attempts to explain the principles which regulate the transference of freeholds, copyholds, and leaseholds, and the law of mortgages, leases, tenancy, &c. There is always risk when legal matters are expounded briefly, even by an expert, and it is not every lawyer who is master of these subjects. Amateurs are as dangerous in law as in other businesses. Architects and surveyors are no doubt from time to time connected with cases which depend upon the laws of property, but their general training no more fits them to explain those laws than the barristers or attorneys would be fit to prescribe what is the best mode of constructing buildings. It is true that in the present case only an outline of legal procedure is given, and that the works of recognised authorities are often quoted, still it would have been more satisfactory if these pages had been compiled by a barrister, or at least revised by one. When the author comes to the subjects of dilapidations, fixtures, and the valuation of property he is on firmer ground, and his explanations are so clear that students and non-professional readers will find the book to be a useful guide to those subjects.

BOOK OF DESIGNS OF HORTICULTURAL BUILDINGS. Birmingham: Henry Hope.

THIS book contains a series of exceedingly well-executed designs and plans for metallic and wooden conservatories, span-roofed and lean-to vineries, greenhouses, orchard-houses, palm-houses, orangeries, &c.; and it also gives a number of sketches and plans of Mr. Hope's well-known system of hot water heating for horticultural buildings, churches, public buildings, and dwelling-houses. There are not less than eighty-six sheets of tinted lithographic illustrations, consisting mostly of buildings that have been erected under various architects by Mr. Hope. There are in addition sheets of designs for crests, finials, verandahs, and other ornamental ironwork.



The Voluntary Examinations and the Ashpitel Medal for 1875.

SIR,—The first article in your number for the 12th inst. contained a challenge to the examiners and moderators in the late voluntary examination which, though neither of my fellow examinees have hitherto taken it up, ought not in my opinion to pass unnoticed. The writer of that article appears surprised at the award of the Ashpitel medal. Now, the trust deed provides that the prize shall be awarded “to such candidate in the voluntary architectural examination conducted by the Institute as

the examiners thereat shall report to the Council of the said Institute as having most highly distinguished himself on such examination, and as deserving such prize." The prize may be, according to another provision of the trust deed, withheld "if there is not anyone among such candidates deserving of such prize;" and power to vary the regulations under which the examination is held is reserved to the Council of the Institute.

When, as examiners, we came to consider the question of awarding the Ashpitol medal, there could be no doubt that the author of one series of answers had obtained a considerably larger proportion of the marks which it was open to him to obtain than any other, and we were also satisfied that his work *per se* was sufficiently good to entitle him to receive the medal. We consulted the trust deed as to whether any section of the examination was the only one from which the recipient of the medal was to be taken, and found that it was quite silent; and we accordingly recommended that the award should be made which the Council actually did make; and I, for one, was glad that an opportunity, such as is not likely in the nature of things often to recur, presented itself of adding a little *déclat* to the preliminary examination.

The idea to which you give expression that passing the preliminary examination does not confer any great credit on any student is hardly borne out if the nature of the subjects taken up and the questions set be taken into account. It is quite true that the minimum number of marks requisite to pass is low, and consequently a moderate though still a respectable amount of proficiency is sufficient to enable a student to escape failure; but there is room beyond this for a very large amount of knowledge to be displayed, and that in various branches of study; and on the present occasion several students, in addition to Mr. Hennessy, did so well in this examination as to lead one to hope that in future years they will achieve greater things.

One further word of explanation is due in the case of certain gentlemen who are not mentioned by name. It ought to be known that of those who did not pass in the division of science in the Proficiency Examination, all had not presented themselves for examination in that branch. It is most desirable that students who have not much leisure should divide this examination, and take the science on one occasion and the art on another; and most undesirable that any gentleman who did not try both should feel as though a partial failure were attributed to him when he really accomplished all he attempted, as was the case in one of the instances to which reference is made in your article.

If I had been able to be present to hear the excellent observations of Professor Lewis in his Paper at the Architectural Association, I should have taken that opportunity to say what I am now troubling you with, and should, I think, have felt constrained to add, that my experience of the Voluntary Examination seems to show that some better means of becoming acquainted with the nature of building materials, and still more with the science (as distinguished from the rule of thumb knack) of using them is very much needed by students, and with this observation I will close.

Your obedient servant,

T. ROGER SMITH.

General

A Strike is said to be impending in the building trade, owing to the action of the Carpenters and Joiners' Association with reference to "grinding-money." The men employed by one of the large metropolitan firms have already struck, and are supported on full pay by the Association.

The Metropolitan Asylums Board, at the meeting on Saturday last, decided to invite the following architects to send in designs for the proposed School for Imbecile Children at Dartford, viz., Messrs. Pennington & Bridgen, Messrs. Giles & Gough, Messrs. A. & C. Harston, Messrs. Wyatt & Salter, Messrs. Lee & Smith, and Mr. Henry Currey.

Dr. Schliemann read a Paper before the Society of Antiquaries of London, at their apartments at Burlington House, on his discoveries on the Plain of Troy, on Thursday, this being Dr. Schliemann's first public appearance in England.

Mr. J. Abernethy, C.E., has reported to the Ramsgate Local Board, upon the proposed extension of the sewer outfall. The estimated cost of the various works recommended is 8,850*l*.

Mr. John Brent, F.S.A., has published a handbook to the "Antiquities in the Canterbury Museum."

Mr. Ewing's Model for the Glasgow statue of Burns is nearly complete for casting. The sculptor is at present engaged on the bas-reliefs for the pedestal, and it is expected that the whole work will be executed so that the monument may be erected in the course of the ensuing autumn.

The Lord Mayor's Banquet to the members of the Royal Academy and other distinguished representatives of Art will be held at the Mansion House on Saturday, July 17.

The Prince of Wales has accepted the Presidency of the British Committee of the forthcoming International Exhibition at Brussels.

An Exhibition of Military Drawings will be held in the Reading Room of the United Service Institution of India in Bombay during next September.

The Council of the Royal School of Art Needlework, in remodelling their institution, have come to the determination of consulting the highest authority for advice and direction in reference to the designs and other points of art concerned in carrying on the work. With this view the aid of Mr. Leighton, R.A., Mr. Val Prinsep, and Mr. Bodley, the architect, has been obtained.

The Model showing the proposed approach to Grosvenor Place by a sunken road to be carried under Piccadilly and the Green Park from Hamilton Place is now on view at the House of Commons. The *Morning Post* says the bridge is to be sufficiently wide to admit of two carriages abreast, with side-walks for foot passengers.

The Greenock Parochial Board have resolved to apply to the Government Loan Commissioners for a loan of 80,000*l*., to be used in the construction of the new asylum and poorhouse at Smithstone.

In the Diocese of Carlisle the churches which have been built or restored at a cost exceeding 500*l*. since the year 1840, amount in all to 218,447*l*. for building and 173,050*l*. for restoration; the churches restored at a cost not exceeding 500*l*. in the same period, amounting to 13,473*l*., making 404,917*l*.

The Designs of Mr. Peter Smith, of Glasgow, have been adopted for the New Town Hall to be erected in Annan. The building will be in the old Scottish style and have a clock tower 90 feet high.

The Salon closed on Sunday last, when there were 32,324 visitors, Sundays and Thursdays being free days. During the 48 days it was open 139,070 persons were admitted by payment and 371,361 gratuitously, and 51,509 catalogues were sold. The receipts were 13,110*l*. below last year's.

The First Commissioner of Works is taking steps to arrest the "honey-combing" which threatens to destroy the Landseer lions and bas-reliefs surrounding Nelson's pillar in Trafalgar Square.

The Greenock Police Board have resolved to make a trial of ventilating a certain number of the sewers in that town by connecting them with the furnaces in public works. The results are to be carefully noted, with the view of determining whether it would be advisable to extend the system throughout the town.

A New Gymnasium, which has been erected by public subscription in the grounds of the Bradford Grammar School, at a cost of 2,700*l*., was formally opened on Tuesday.

The Middlesbrough Bricklayers have given notice to their employers for an advance in wages of 6*d*. per day, and for a reduction of half-an-hour in the length of the day's work. At present they have 36*s*., against the 33*s*. per week paid to men of the same trade in Stockton. The builders will resist the demand.

The Members of the Sheffield Architectural and Archaeological Society last week visited the Church of St. Mary Magdalene at Campsall, near Doncaster, which is now being restored. The parish registers date back to the early part of the reign of Queen Elizabeth.

In the Restoration of the ancient parish church of West Wittering, near Chichester, a very remarkable coffin lid of Purbeck marble has been discovered. A simple hollow is carried round the edge, and upon the top is a cross in low relief. Close to it, on the sinister side, is a pastoral staff similarly cut. It is supposed that it is a memorial of a boy bishop, who died between the festivals of St. Nicholas and Holy Innocents.

The "Amisfield Lodging," a venerable building in South Queensberry Street, Dumfries, has been sold for the erection of new premises. It is nearly the last of the remaining town houses which the knights and lesser barons of the south-west Border had in Dumfries, and in the sixteenth and seventeenth centuries was a residence of the Charterises of Amisfield—whose ancient tower is still in good preservation five miles north-east of Dumfries.

St. Andrew's Church, at Histon, Cambridge, was re-opened on Wednesday. The work has been carried out under the guidance of Sir Gilbert Scott, principally at the cost of the lady of the manor, Mrs. Sumpter.

The City Commission of Sewers have resolved to pave with wood, at an estimated cost of 2,105*l*., the remaining portion of the carriage-way in St. Paul's Churchyard, on the south and east sides of the Cathedral, thus providing an unbroken line of noiseless pavement from Ludgate Circus to London Bridge.

The Disney Professorship of Archaeology at Cambridge is vacant, and the election of a person to fill the office will take place on Friday, October 22 next. The professor must be a member of the University of Cambridge, and of the degree of Master of Arts, or some higher degree. He is to deliver six lectures at least in the course of each academical year, at such days and hours as the Vice-Chancellor may appoint. The professorship is tenable for five years, and the professor may be re-elected. The electors are the Vice-Chancellor and heads of colleges or their *locum tenentes*.

The Inhabitants of Hawick have been polled on the question whether the scheme promoted by the majority of the Town Council for the erection of a new town hall, at a cost of not more than 6,000*l*., shall be proceeded with. Out of a constituency of 1,644, 232 voted for proceeding with the hall, 63 against doing so, and 52 for delay.

The Barton Court Estate, Berkshire, comprising a mansion and nearly 2,500 acres, was offered at auction on Tuesday at the Mart, Tokenhouse Yard, by Mr. F. J. Clark (of the firm of Messrs. Farebrother, Clark & Co.), and sold to Sir Richard Sutton, of Benham Park, Newbury, for 120,000*l*.

The Burntland Town Council resolved on Tuesday to take a plebiscite of the inhabitants on the question whether the docks should be disposed of to the North British Railway Company.

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